Baskar
09/769787



(FILE 'HCAPLUS' ENTERED AT 14:46:35 ON 31 JUL 2002)
L10 602 SEA FILE=HCAPLUS ABB=ON PLU=ON ((STREPTOCOCC? OR S)(W)PNEUMON?)(5A)INFECTION
L15 176 SEA FILE=HCAPLUS ABB=ON PLU=ON L10(S)(TREAT? OR THERAP? OR PROPHYL?)
L16 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L15(S)(PROTEIN OR POLYPROTEIN OR PEPTIDE OR POLYPEPTIDE)

- key terms

L16 ANSWER 1 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:522026 HCAPLUS
TITLE: Use of surface-associated pneumo protective **protein** of **Streptococcus pneumoniae** in diagnosis and **treatment** of **infection** and inflammation
INVENTOR(S): Green, Bruce A.; Masi, Amy W.
PATENT ASSIGNEE(S): Wyeth, John, and Brother Ltd., USA
SOURCE: PCT Int. Appl., 91 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002053761 | A2 | 20020711 | WO 2001-US49650 | 20011228 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-258841P P 20001228
AB The present invention discloses amino acid sequences and nucleic acid sequences relating to a Streptococcus Pneumoniae surface assocd. Pneumo Protective Protein 1 (PPP1) having a mol. wt. of about 20 kilo Daltons (kDa), an isoelec. point of 4.587 and a charge of -14.214 at pH 7.0. The PPP1 exhibits the ability to reduce colonization of pneumococcal bacteria. Thus the present invention also pertains to compns. for the treatment and prophylaxis of infection or inflammation assocd. with bacterial infection.

L16 ANSWER 2 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:359275 HCAPLUS
TITLE: Nucleic acids and proteins from group B Streptococcus agalactiae and group A Streptococcus pyogenes
INVENTOR(S): Telford, John; Masignani, Vega; Margarit Y Ros, Immaculada; Grandi, Guido; Fraser, Claire; Tettelin, Herve
PATENT ASSIGNEE(S): Chiron S.P.A., Italy; The Institute for Genomic Research

SOURCE: PCT Int. Appl., 4525 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002034771 | A2 | 20020502 | WO 2001-XB4789 | 20011029 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| WO 2002034771 | A2 | 20020502 | WO 2001-GB4789 | 20011029 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| GB 2000-26333 | A | 20001027 |
| GB 2000-28727 | A | 20001124 |
| GB 2001-5640 | A | 20010307 |
| WO 2001-GB4789 | W | 20011029 |

AB The invention provides proteins from group B streptococcus (Streptococcus agalactiae) and group A streptococcus (Streptococcus pyogenes), including amino acid sequences and the corresponding nucleotide sequences. The nucleotide sequence of the full genome of S. agalactiae strain 2603 V/R is provided as are 5483 protein-coding genes and the amino acid sequences of their protein products. Data are given to show that the proteins are useful antigens for vaccines, immunogenic compns., and/or diagnostics. The proteins are also targets for antibiotics to treat or prevent bacterial infection, and in particular, streptococcal infection. [This abstr. record is one of three records for this document necessitated by the large no. of index entries required to fully index the document and publication constraints.].

L16 ANSWER 3 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:359274 HCAPLUS
TITLE: Nucleic acids and proteins from group B Streptococcus agalactiae and group A Streptococcus pyogenes
INVENTOR(S): Telford, John; Masignani, Vega; Margarit Y Ros, Immaculada; Grandi, Guido; Fraser, Claire;

Tettelin, Herve
PATENT ASSIGNEE(S): Chiron S.P.A., Italy; The Institute for Genomic Research
SOURCE: PCT Int. Appl., 4525 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002034771 | A2 | 20020502 | WO 2001-XA4789 | 20011029 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| WO 2002034771 | A2 | 20020502 | WO 2001-GB4789 | 20011029 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |

PRIORITY APPLN. INFO.:
GB 2000-26333 A 20001027
GB 2000-28727 A 20001124
GB 2001-5640 A 20010307
WO 2001-GB4789 W 20011029

AB The invention provides proteins from group B streptococcus (Streptococcus agalactiae) and group A streptococcus (Streptococcus pyogenes), including amino acid sequences and the corresponding nucleotide sequences. The nucleotide sequence of the full genome of S. agalactiae strain 2603 V/R is provided as are 5483 protein-coding genes and the amino acid sequences of their protein products. Data are given to show that the proteins are useful antigens for vaccines, immunogenic compns., and/or diagnostics. The proteins are also targets for antibiotics to treat or prevent bacterial infection, and in particular, streptococcal infection. [This abstr. record is one of three records for this document necessitated by the large no. of index entries required to fully index the document and publication constraints.].

L16 ANSWER 4 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:332211 HCAPLUS
DOCUMENT NUMBER: 136:364951
TITLE: Nucleic acids and proteins from group B

Streptococcus agalactiae and group A Streptococcus pyogenes

INVENTOR(S): Telford, John; Masignani, Vega; Margarit y Ros, Immaculada; Grandi, Guido; Fraser, Claire; Tettelin, Herve

PATENT ASSIGNEE(S): Chiron S.P.A., Italy; The Institute for Genomic Research

SOURCE: PCT Int. Appl., 4525 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002034771 | A2 | 20020502 | WO 2001-GB4789 | 20011029 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| WO 2002034771 | A2 | 20020502 | WO 2001-XA4789 | 20011029 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| WO 2002034771 | A2 | 20020502 | WO 2001-XB4789 | 20011029 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| GB 2000-26333 | A | 20001027 |
| GB 2000-28727 | A | 20001124 |
| GB 2001-5640 | A | 20010307 |
| WO 2001-GB4789 | W | 20011029 |

AB The invention provides proteins from group B streptococcus (Streptococcus agalactiae) and group A streptococcus (Streptococcus

pyogenes), including amino acid sequences and the corresponding nucleotide sequences. The nucleotide sequence of the full genome of S. agalactiae strain 2603 V/R is provided as are 5483 protein-coding genes and the amino acid sequences of their protein products. Data are given to show that the proteins are useful antigens for vaccines, immunogenic compns., and/or diagnostics. The proteins are also targets for antibiotics to treat or prevent bacterial infection, and in particular, streptococcal infection. [This abstr. record is one of three records for this document necessitated by the large no. of index entries required to fully index the document and publication constraints.].

L16 ANSWER 5 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:293824 HCAPLUS
DOCUMENT NUMBER: 136:321986
TITLE: Drug screening for effectors of enoyl ACP reductase encoded by fabK and fabI genes of Streptococcus pneumoniae for treatment of bacterial infections
INVENTOR(S): Dewolf, Walter E., Jr.; Payne, David J.; Seefeld, Mark A.; Wallis, Nicola G.; West, Joshua M.; Brandt, Martin; Keller, Paul M.; Patel, Arunbhai H.; Reed, Shannon L.; Tew, David G.
PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA; Smithkline Beecham P.L.C.
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002031128 | A1 | 20020418 | WO 2000-US27628 | 20001006 |

W: AE, AL, AU, BA, BB, BG, BR, BZ, CA, CN, CZ, DZ, EE, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, MZ, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, TZ, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AB The invention provides methods for using agonists and antagonists of FabK gene encoded enoyl ACP reductase, particularly to modulate the metab. of bacteria or to treat bacterial infection. Methods for screening of inhibitors of FabI gene (coding for enoyl ACP reductase) are also provided. Nucleic acid sequences of gene fabK and amino acid sequences of the encoded enoyl ACP reductase are provided.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 6 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:275751 HCAPLUS
DOCUMENT NUMBER: 136:290805

TITLE: Mucin binding proteins and their variants from Streptococcus pneumoniae and their use in diagnosis and treatment of infections
INVENTOR(S): Green, Bruce A.; Masi, Amy W.; Reddy, Molakala S.
PATENT ASSIGNEE(S): American Home Products Corporation, USA; The Research Foundation of S.U.N.Y.
SOURCE: PCT Int. Appl., 71 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002028351 | A2 | 20020411 | WO 2001-US31269 | 20011004 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-237888P P 20001004
US 2001-267104P P 20010207

AB The present invention provides for amino acid and nucleic acid sequences of isolated mucin-binding proteins (MBP) from Streptococcus pneumoniae and fragments thereof. More specifically, mucin-binding proteins of 12 kDa and 14 kDa were identified using a 10-20% SDS-PAGE gel. Expression vectors, transfected host cells, methods for producing recombinant mucin-binding proteins, compns. comprising the proteins, and antibodies to the proteins also are contemplated. A method of inducing an immune response is described by the present invention. Screening and diagnosing methods are provided for otitis media, bacteremia pneumonia, meningitis, rhino sinusitis and lower respiratory tract infections using MBP of the present invention. In a specific embodiment, lysine variants of MBP are provided wherein the absence of at least one lysine residue decreases mucin-binding protein activity. Mucosal immunization with 12 kDa MBP was shown to reduce pneumococcal colonization in the mouse nasopharynx.

L16 ANSWER 7 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:242363 HCAPLUS
DOCUMENT NUMBER: 136:305830
TITLE: Streptococcus pneumoniae ffh gene and protein sequences and characterization of Staphylococcus aureus ffh ribonucleoprotein binding to 4.5S RNA for use in high-throughput drug screening
INVENTOR(S): Cheever, Christy; Fecteau, Douglas; Li, Hu; Payne, David; Steel, Angela; Wang, Lei
PATENT ASSIGNEE(S): Smithkline Beecham Corp, USA; Smithkline Beecham P.L.C.

SOURCE: Brit. UK Pat. Appl., 55 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| GB 2364053 | A1 | 20020116 | GB 2001-7127 | 20010321 |

PRIORITY APPLN. INFO.: US 2000-191008P P 20000321

AB The present invention provides the protein and nucleotide sequences of ffh (fifty four homolog) of Streptococcus pneumoniae. The invention also provides the initial ribonucleoprotein interaction of the ffh protein of Staphylococcus aureus and the 4.5S RNA. This may be used for high-throughput drug screening for effectors of this interaction. This invention may be used for treating otitis media, conjunctivitis, pneumonia, bacteremia, meningitis, sinusitis, pleural emphysema and endocarditis and most particularly meningitis caused by Streptococcus pneumoniae or Staphyloccus aureus. Dissocn. const. (Kd) for interaction of N-His-tagged ffh protein of S. aureus and 4.5S RNA was 110 nM. Dissocn. const. (Kd) for interaction of S. aureus and Esherichia coli ffh proteins with S. aureus TAMRA-labeled 28-mer 4.5S RNA oligomer, demonstrated by fluorescence polarization binding assays were 200 nM and 580 nM, resp. Specificity of the binding interaction between TAMRA-labeled 28-mer 4.5S RNA oligomers and ffh protein of S. aureus was also demonstrated.

L16 ANSWER 8 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:798256 HCAPLUS
DOCUMENT NUMBER: 135:343285
TITLE: Immunogenic pneumococcal protein and vaccine compositions thereof
INVENTOR(S): Koenig, Scott; Johnson, Leslie S.; Amadou, John E.
PATENT ASSIGNEE(S): Medimmune, Inc., USA
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001081380 | A2 | 20011101 | WO 2001-US13828 | 20010427 |
| WO 2001081380 | A3 | 20020228 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-200074P P 20000427

AB The present invention relates to novel immunogenic **polypeptides**, and **therapeutically** active fragments thereof, and vaccines, and vaccine compns., for the prevention and **treatment** of streptococcal **infection**, esp. by **Streptococcus pneumoniae**. The invention also relates to antibodies against the disclosed polypeptides, as well as methods of disease prevention and/or treatment.

L16 ANSWER 9 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:114787 HCAPLUS
DOCUMENT NUMBER: 134:177340
TITLE: Pneumococcal vaccines
INVENTOR(S): De Groot, Ronald; Hermans, Peter Wilhelmus Maria
PATENT ASSIGNEE(S): Erasmus Universiteit Rotterdam, Neth.
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 1075841 | A1 | 20010214 | EP 1999-202640 | 19990813 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| WO 2001012219 | A1 | 20010222 | WO 2000-NL569 | 20000814 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| EP 1200120 | A1 | 20020502 | EP 2000-953578 | 20000814 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL | | | | |

PRIORITY APPLN. INFO.: EP 1999-202640 A 19990813
WO 2000-NL569 W 20000814

AB The invention relates to the use of a **protein** or a fragment thereof of Streptococcus pneumoniae, its use for the prepn. of a vaccine for the preventive **treatment** of a **S . pneumoniae infection**, compns. comprising protease maturation **protein** of S. pneumoniae or a fragment thereof, vaccines comprising said **protein** or fragment thereof, use of a nucleic acid sequence encoding for said **protein** or fragment thereof, vectors wherein the nucleic acid sequence is brought to expression and to recombinant protease maturation **protein** or a fragment thereof.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 10 OF 25 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:900503 HCAPLUS
DOCUMENT NUMBER: 134:55502
TITLE: Antibody-based treatment for Streptococcus pneumoniae infection
INVENTOR(S): Nabors, Gary S.; Briles, David
PATENT ASSIGNEE(S): Aventis Pasteur, USA; Uab Research Foundation
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000076587 | A1 | 20001221 | WO 2000-US16581 | 20000616 |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| EP 1194187 | A1 | 20020410 | EP 2000-939927 | 20000616 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |

PRIORITY APPLN. INFO.: US 1999-139524P P 19990616
WO 2000-US16581 W 20000616

AB The present invention comprises a method of treating a mammal infected with Streptococcus pneumoniae, which methods comprises administering to the mammal a therapeutically effective amt. of one or more PspA antibodies. Preferably the mammal is a human.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 11 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:900481 HCAPLUS
DOCUMENT NUMBER: 134:55489
TITLE: Streptococcus pneumoniae proteins and vaccines
INVENTOR(S): Adamou, John E.; Choi, Gil H.
PATENT ASSIGNEE(S): Med Immune, Inc., USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000076540 | A2 | 20001221 | WO 2000-US15925 | 20000609 |
| WO 2000076540 | A3 | 20010208 | | |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, | | | | |

MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1185297 A2 20020313 EP 2000-939739 20000609
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO
PRIORITY APPLN. INFO.: US 1999-138453P P 19990610
WO 2000-US15925 W 20000609

AB The present invention relates to novel immunogenic **polypeptides**, and fragments thereof, and vaccines for the prevention and **treatment** of pneumococcal **infection**, esp. by **Streptococcus pneumoniae**. The invention also relates to antibodies against the disclosed polypeptides, as well as vaccines contg. said polypeptides and methods of disease prevention.

L16 ANSWER 12 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:720440 HCAPLUS
DOCUMENT NUMBER: 134:37929
TITLE: Protein and DNA sequences of novel proteins from Streptococcus pneumoniae and their uses in diagnosis, therapy and drug screening
INVENTOR(S): Altieri, Mario; Domenici, Enrico; Faggioni, Frederico; Ferrari, Livia; Motti, Harald; Piccoli, Laura; Polissi, Alessandra; Pontiggia, Andrea; Ratti, Emiliangelo; Simon, Daniel
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: Brit. UK Pat. Appl., 55 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| GB 2345288 | A1 | 20000705 | GB 1998-21362 | 19981002 |

AB The invention provides protein and DNA sequences of novel Streptococcus pneumoniae proteins. The invention further relates to the uses of Streptococcus pneumoniae **proteins** in diagnosis and **treatment** for **infections** caused by **Streptococcus pneumoniae**, and in drug screening designed to identify antimicrobial compds.

L16 ANSWER 13 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:98775 HCAPLUS
DOCUMENT NUMBER: 132:162046
TITLE: Sequences of Streptococcus pneumoniae proteins and nucleic acid molecules, and uses thereof in in drug screening, diagnostic, and therapeutic applications
INVENTOR(S): Gilbert, Christophe Francois Guy; Hansbro, Philip Michael
PATENT ASSIGNEE(S): Microbial Technics Limited, UK
SOURCE: PCT Int. Appl., 108 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000006737 | A2 | 20000210 | WO 1999-GB2451 | 19990727 |
| WO 2000006737 | A3 | 20000629 | | |
| W: CN, JP, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 1100921 | A2 | 20010523 | EP 1999-934989 | 19990727 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

PRIORITY APPLN. INFO.: GB 1998-16337 A 19980727
US 1999-125164P P 19990319
WO 1999-GB2451 W 19990727

AB The invention provides sequences of novel protein antigens from type 4 Streptococcus pneumoniae. The invention also provides for the use of the disclosed nucleic acids/proteins as antigens/immunogens, in the diagnosis of Streptococcus infections, and in screening for potential antimicrobial agents.

L16 ANSWER 14 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:577027 HCAPLUS
DOCUMENT NUMBER: 131:198616
TITLE: Epitope peptides immunogenic against Streptococcus pneumoniae and their use in vaccines
INVENTOR(S): Carlone, George M.; Ades, Edwin W.; Sampson, Jacquelyn S.; Tharpe, Jean A.; Zeiler, Joan Louise; Westerink, Maria Anna Julia
PATENT ASSIGNEE(S): The Government of the United States of America, Represented by the Secretary, USA
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9945121 | A1 | 19990910 | WO 1999-US4326 | 19990226 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| CA 2326408 | AA | 19990910 | CA 1999-2326408 | 19990226 |
| AU 9927950 | A1 | 19990920 | AU 1999-27950 | 19990226 |
| BR 9908476 | A | 20001205 | BR 1999-8476 | 19990226 |

EP 1060249 A1 20001220 EP 1999-908543 19990226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
PRIORITY APPLN. INFO.: US 1998-76565P P 19980302
WO 1999-US4326 W 19990226

AB Peptides are provided which immunospecifically bind to monoclonal antibodies specific for the 37-kDa pneumococcal surface adhesion A protein (PsaA) of Streptococcus pneumoniae of the invention, and that are immunogenic against Streptococcus pneumoniae infection. Also provided are vaccines comprising such immunogenic **polypeptides**, and methods of conferring protective immunity against **Streptococcus pneumoniae** **infection** by administering **therapeutic** compns. comprising the immunogenic **peptides** of the invention. Also provided are methods of detecting the presence of Streptococcus pneumoniae in a sample using antibodies or antigens, and methods of preventing and treating Streptococcus pneumoniae infection in a subject. In addn. a phage display method of identifying the sequence of a peptide potentially capable of eliciting protective immunity against a pathogenic microorganism is provided.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 15 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:511257 HCAPLUS
DOCUMENT NUMBER: 131:154473
TITLE: Streptococcus pneumoniae lipidated PsaA protein, a chimeric DNA molecule encoding it, its recombinant production, isolation and purification, and its use in a vaccine for the prevention and treatment of infection
INVENTOR(S): Ades, Edwin W.; Carlone, George M.; De Barun, K.; Sampson, Jacquelyn S.; Huebner, Robert C.
PATENT ASSIGNEE(S): Center for Disease Control and Prevention, USA
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9940200 | A1 | 19990812 | WO 1999-US379 | 19990114 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| CA 2319404 | AA | 19990812 | CA 1999-2319404 | 19990114 |
| AU 9923131 | A1 | 19990823 | AU 1999-23131 | 19990114 |
| EP 1053329 | A1 | 20001122 | EP 1999-903011 | 19990114 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, | | | | |

PT, IE, FI
BR 9909097 A 20001205 BR 1999-9097 19990114
JP 2002505083 T2 20020219 JP 2000-530614 19990114
PRIORITY APPLN. INFO.: US 1998-17782 A 19980203
WO 1999-US379 W 19990114

AB The invention provides a chimeric DNA mol. contg. the first 52 amino acids of Borrelia burgdorferi gene ospA lipoprotein (including the signal peptide) fused to the mature form of Streptococcus pneumoniae gene psaA pneumococcal surface protein A (PsaA, previously known as pneumococcal fimbrial protein A). The invention also provides an expression vector contg. the chimeric DNA mol., and the use of the vector for recombinant prodn. of lipidated PsaA proteins. The invention further provides purifn. methods used to obtain the recombinant PsaA proteins, and use of these proteins in immunol. compns. Also provided are vaccines comprising immunogenic lipidated PsaA **proteins** and methods of use of such vaccines in the prevention and **treatment** of **S. pneumoniae infection.** The sequence of the chimeric DNA mol. used in the recombinant prodn. of lipidated PsaA proteins was included in the invention.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 16 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:468470 HCAPLUS
DOCUMENT NUMBER: 131:98516
TITLE: Essential Streptococcus pneumoniae genes and methods for screening for antibacterial agents
INVENTOR(S): Youngman, Philip; Fritz, Christian; Murphy, Christopher; Guzman, Luz-Maria
PATENT ASSIGNEE(S): Millennium Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 124 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9933871 | A2 | 19990708 | WO 1998-US27918 | 19981230 |
| WO 9933871 | A3 | 19991223 | | |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| CA 2315252 | AA | 19990708 | CA 1998-2315252 | 19981230 |
| AU 9920243 | A1 | 19990719 | AU 1999-20243 | 19981230 |
| EP 1042361 | A1 | 20001011 | EP 1998-965050 | 19981230 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2002504314 | T2 | 20020212 | JP 2000-526545 | 19981230 |

PRIORITY APPLN. INFO.: US 1997-70116P P 19971231
WO 1998-US27918 W 19981230

AB Disclosed are 23 genes, termed "GEP" genes, found in Streptococcus pneumoniae, which are located within operons that are essential for survival. Also disclosed is a related essential gene found in Bacillus subtilis. These genes and the **polypeptides** that they encode, as well as homologs thereof, can be used to identify antibacterial agents for **treating** bacterial **infections** such as **streptococcal pneumoniae**.

L16 ANSWER 17 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:119779 HCAPLUS
DOCUMENT NUMBER: 130:193978
TITLE: Compositions and methods for identifying compounds for treatment of infection caused by Haemophilus influenzae and Streptococcus pneumoniae and other bacteria incorporating choline into cell wall structures
INVENTOR(S): Weiser, Jeffrey N.
PATENT ASSIGNEE(S): The Children's Hospital of Philadelphia, USA
SOURCE: U.S., 31 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 5871951 | A | 19990216 | US 1997-935396 | 19970923 |

AB The invention relates to methods of identifying a compd. capable of disrupting the addn. of choline onto a bacterial cell surface component. The methods comprise incubating a sample of bacteria or bacterial ext. or a bacterial choline kinase in a soln. contg. choline in the presence or absence of a test compd., and assessing the effect of the test compd. on the addn. of choline onto the bacterial cell surface component, wherein a lower level of choline on the cell surface component in the presence of the test compd., compared with the level of choline on the cell surface component in the absence of the test compd., is an indication that the test compd. inhibits the addn. of choline onto the cell surface component. It has been discovered that H. influenzae and S. pneumoniae have a choline kinase which phosphorylates choline to choline phosphate (ChoP) for incorporation into cell wall structures.
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 18 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:42537 HCAPLUS
DOCUMENT NUMBER: 130:106051
TITLE: Streptococcus pneumoniae gene gidA2 polynucleotides and polypeptides
INVENTOR(S): Palmer, Leslie Marie; Fedon, Jason Craig; Lenox, Anna Lisa; Kallender, Howard
PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA; Smithkline

| | |
|---|---|
| | Beecham Plc |
| SOURCE: | Eur. Pat. Appl., 41 pp. |
| | CODEN: EPXXDW |
| DOCUMENT TYPE: | Patent |
| LANGUAGE: | English |
| FAMILY ACC. NUM. COUNT: | 1 |

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 889132 | A2 | 19990107 | EP 1998-305208 | 19980630 |
| EP 889132 | A3 | 20020320 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| CA 2236441 | AA | 19990101 | CA 1998-2236441 | 19980629 |
| JP 11137266 | A2 | 19990525 | JP 1998-223539 | 19980701 |
| JP 2000050890 | A2 | 20000222 | JP 1999-212084 | 19980701 |
| PRIORITY APPLN. INFO.: | | | US 1997-51378P P | 19970701 |
| | | | JP 1998-223539 A3 | 19980701 |

AB The invention provides gidA2 polypeptides and polynucleotides encoding gidA2 polypeptides and methods for producing such polypeptides by recombinant techniques. Full-length gene gidA2 from Streptococcus pneumoniae encodes a protein 444 amino acids in length. Also provided are expression systems for prodn. of gidA2 polypeptides, diagnosis and treatment methods for diseases, computer-readable media for homol. identification and assembly, and methods for utilizing gidA2 polypeptides to screen for antibacterial compds.

L16 ANSWER 19 OF 25 HCAPLUS COPYRIGHT 2002 ACS

| | |
|---|---|
| ACCESSION NUMBER: | 1999:42535 HCAPLUS |
| DOCUMENT NUMBER: | 130:106049 |
| TITLE: | Streptococcus pneumoniae gene gidB polynucleotides and polypeptides |
| INVENTOR(S): | Kallender, Howard |
| PATENT ASSIGNEE(S): | Smithkline Beecham Corporation, USA; Smithkline Beecham Plc |
| SOURCE: | Eur. Pat. Appl., 23 pp. |
| | CODEN: EPXXDW |
| DOCUMENT TYPE: | Patent |
| LANGUAGE: | English |
| FAMILY ACC. NUM. COUNT: | 1 |

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 889130 | A2 | 19990107 | EP 1998-305183 | 19980630 |
| EP 889130 | A3 | 20020320 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| US 5866366 | A | 19990202 | US 1997-886633 | 19970701 |
| CA 2236459 | AA | 19990101 | CA 1998-2236459 | 19980630 |
| JP 11137267 | A2 | 19990525 | JP 1998-223542 | 19980701 |
| US 6207449 | B1 | 20010327 | US 1998-213081 | 19981216 |
| US 6214346 | B1 | 20010410 | US 1998-212979 | 19981216 |
| PRIORITY APPLN. INFO.: | | | US 1997-886633 A | 19970701 |

AB The invention provides gidB polypeptides and polynucleotides encoding gidB polypeptides and methods for producing such

polypeptides by recombinant techniques. Full-length gene gidB from Streptococcus pneumoniae encodes a protein 237 amino acids in length. Also provided are expression systems for prodn. of gidB polypeptides, diagnosis and treatment methods for diseases, computer-readable media for homol. identification and assembly, and methods for utilizing gidB polypeptides to screen for antibacterial compds.

L16 ANSWER 20 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:42533 HCAPLUS
DOCUMENT NUMBER: 130:106047
TITLE: Streptococcus pneumoniae gene gidA1 polynucleotides and polypeptides
INVENTOR(S): Palmer, Leslie Marie; Fedon, Jason C.; Lenox, Anna Lisa; Wang, Min; Jaworski, Deborah D.; Kallender, Howard; Burnham, Martin
PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA; Smithkline Beecham Plc
SOURCE: Eur. Pat. Appl., 44 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 889128 | A2 | 19990107 | EP 1998-305174 | 19980630 |
| EP 889128 | A3 | 20020320 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| US 6238882 | B1 | 20010529 | US 1998-104068 | 19980624 |
| CA 2236425 | AA | 19990101 | CA 1998-2236425 | 19980629 |
| JP 11137268 | A2 | 19990525 | JP 1998-223543 | 19980701 |
| JP 2000210093 | A2 | 20000802 | JP 2000-53626 | 19980701 |

PRIORITY APPLN. INFO.: US 1997-51379P P 19970701
JP 1998-223543 A3 19980701

AB The invention provides gidA1 polypeptides and polynucleotides encoding gidA1 polypeptides and methods for producing such polypeptides by recombinant techniques. Full-length gene gidA1 from Streptococcus pneumoniae encodes a protein 637 amino acids in length. Also provided are expression systems for prodn. of gidA1 polypeptides, diagnosis and treatment methods for diseases, computer-readable media for homol. identification and assembly, and methods for utilizing gidA1 polypeptides to screen for antibacterial compds.

L16 ANSWER 21 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:197634 HCAPLUS
DOCUMENT NUMBER: 128:278969
TITLE: Compositions and methods for treatment of infection caused by Haemophilus influenzae and Streptococcus pneumoniae
INVENTOR(S): Weiser, Jeffrey N.
PATENT ASSIGNEE(S): Children's Hospital of Philadelphia, USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9812346 | A1 | 19980326 | WO 1997-US16807 | 19970923 |
| W: AU, CA, JP | | | | |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| CA 2196502 | AA | 19980324 | CA 1997-2196502 | 19970131 |
| AU 9744907 | A1 | 19980414 | AU 1997-44907 | 19970923 |

PRIORITY APPLN. INFO.: US 1996-26940P P 19960923
WO 1997-US16807 W 19970923

AB The invention relates to a method of identifying a compd. capable of disrupting the addn. of choline onto a bacterial cell surface component comprising incubating a sample of bacteria in a soln. contg. choline in the presence or absence of a test compd., and assessing the effect of the test compd. on the addn. of choline onto the bacterial cell surface component, wherein a lower level of choline on the cell surface component in the presence of the test compd., compared with the level of choline on the cell surface component in the absence of the test compd., is an indication that the test compd. inhibits the addn. of choline onto the cell surface component.

L16 ANSWER 22 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:679183 HCAPLUS
DOCUMENT NUMBER: 127:356941
TITLE: Genomic DNA sequences of Streptococcus pneumoniae strain 0100993, their predicted protein products, and their diagnostical and therapeutical uses
INVENTOR(S): Black, Michael Terrance; Hodgson, John Edward; Knowles, David Justin Charles; Nicholas, Richard Oakley; Stodola, Robert King
PATENT ASSIGNEE(S): Smithkline Beecham Corp., USA; Smithkline Beecham PLC; Black, Michael Terrance; Hodgson, John Edward; Knowles, David Justin Charles; Nicholas, Richard Oakley; Stodola, Robert King
SOURCE: PCT Int. Appl., 353 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9737026 | A1 | 19971009 | WO 1997-US5306 | 19970401 |
| W: JP, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 907738 | A1 | 19990414 | EP 1997-920002 | 19970401 |
| R: BE, CH, DE, DK, FR, GB, IT, LI, NL | | | | |
| JP 2000511769 | T2 | 20000912 | JP 1997-535535 | 19970401 |

PRIORITY APPLN. INFO.: US 1996-14690P P 19960402
US 1996-25788P P 19960822

WO 1997-US5306 W 19970401

AB The genomic DNA sequences of Streptococcus pneumoniae strain 0100993 are isolated and the amino acid sequences of the predicted polypeptides are deduced from open reading frames (ORF). Claimed are the antibodies against the polypeptides, methods of identifying the compds. that interact with the polypeptides, methods of identifying antimicrobial compds., and clin. use of the polypeptides.

L16 ANSWER 23 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:248926 HCAPLUS
DOCUMENT NUMBER: 126:311795
TITLE: Immunization with a plasmid expressing pneumococcal surface protein A (PspA) can elicit protection against fatal infection with Streptococcus pneumoniae
AUTHOR(S): McDaniel, L. S.; Loechel, F.; Benedict, C.; Greenway, T.; Briles, D. E.; Conry, R. M.; Curiel, D. T.
CORPORATE SOURCE: Bacterial Pathogenesis Lab., Univ. Alabama, Birmingham, AL, USA
SOURCE: Gene Therapy (1997), 4(4), 375-377 — 102
CODEN: GETHEC; ISSN: 0969-7128
PUBLISHER: Stockton
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Pneumococcal surface protein A (PspA) is a protection-eliciting protein of Streptococcus pneumoniae. We obsd. that immunization of BALB/c mice with a plasmid expressing PspA significantly protected the mice from lethal challenge with S. pneumoniae when compared to control mice that received injections of the plasmid vector alone. The plasmid construct expressing PspA has been designated pKSD2601. Mice immunized i.m. with pKSD2601 had a mean log of colony-forming units of 2.97 .+-. 0.25 pneumococci circulating in their blood at 24 h after challenge as compared with control mice that had a mean log of colony-forming units of 4.95 .+-. 0.59. Those mice with lower nos. of pneumococci subsequently survived the challenge. Given the quant. nature and ultimate end point (ie live vs. dead) our mouse model should be useful in working out optimum expression of bacterial genes for DNA immunization.

L16 ANSWER 24 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:813133 HCAPLUS
DOCUMENT NUMBER: 123:218379
TITLE: Treatment of gram-positive bacterial infections with bactericidal/permeability protein BPI and its fragments alone or in combination with antibiotics
INVENTOR(S): Horowitz, Arnold; Lambert, Lewis H., Jr.; Little, Roger G., II
PATENT ASSIGNEE(S): Xoma Corp., USA
SOURCE: PCT Int. Appl., 260 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 12
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9519180 | A1 | 19950720 | WO 1995-US656 | 19950117 |
| W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ | | | | |
| RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| US 5733872 | A | 19980331 | US 1994-209762 | 19940311 |
| AU 9516822 | A1 | 19950801 | AU 1995-16822 | 19950113 |
| AU 703192 | B2 | 19990318 | | |
| ZA 9500249 | A | 19950808 | ZA 1995-249 | 19950113 |
| ZA 9500248 | A | 19950904 | ZA 1995-248 | 19950113 |
| EP 754050 | A1 | 19970122 | EP 1995-908545 | 19950113 |
| EP 754050 | B1 | 20020626 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| JP 09508359 | T2 | 19970826 | JP 1995-519190 | 19950113 |

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| US 1994-183222 | A | 19940114 |
| US 1994-209762 | A | 19940311 |
| US 1994-274299 | A | 19940711 |
| US 1993-30644 | A2 | 19930312 |
| US 1993-93202 | B2 | 19930715 |
| WO 1994-US10427 | W | 19940915 |
| WO 1995-US656 | W | 19950117 |

AB Gram-pos. bacterial infections are treated by administration of a bactericidal/permeability-inducing (BPI) protein product alone, or in combination with an antibiotic. BPI protein product alone has a bactericidal or growth inhibitory effect on selected gram-pos. organisms. BPI protein product also increases the susceptibility of gram-pos. organisms to antibiotics and can even reverse resistance of gram-pos. organisms to antibiotic.

L16 ANSWER 25 OF 25 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:480300 HCAPLUS
DOCUMENT NUMBER: 124:45721
TITLE: Method of treating pulmonary disease states with non-naturally occurring amphipathic peptides
INVENTOR(S): Jaynes, Jesse M.; Julian, Gordon R.
PATENT ASSIGNEE(S): Demeter Biotechnologies, Ltd., USA
SOURCE: PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 10
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9428921 | A1 | 19941222 | WO 1994-US6176 | 19940602 |
| W: AU, CA, FI, JP, KR, NO, NZ | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| AU 9470502 | A1 | 19950103 | AU 1994-70502 | 19940602 |
| US 5744445 | A | 19980428 | US 1995-457798 | 19950601 |

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| US 1993-39620 | A | 19930604 |

WO 1994-US6176 W 19940602

AB A method of treating pulmonary disease states, e.g., a disease state selected from the group consisting of: cystic fibrosis, neoplasias, bronchogenic cancers, pneumonia, bronchitis, bronchopulmonary viral infections, and bronchopulmonary microbial infections, comprises delivery of an amphipathic non-naturally occurring peptide to an appropriate corporeal site, e.g, pulmonary and/or gastrointestinal loci, to effectively treat such diseases. A method is claimed for treating cystic fibrosis by delivery of lytic, amphipathic non-naturally occurring peptides to pulmonary loci, thereby effecting treatment of bronchopulmonary microbial infections assocd. with cystic fibrosis through lysis of pathogenic bacteria. Peptides delivered to a gastrointestinal locus preferably are non-lytic, so as not to affect normal gastrointestinal flora, and preferably are chem. modified to confer enhanced proteolytic resistance for an oral method of delivery. Peptides delivered to a pulmonary locus advantageously exhibit lytic activity and do not require chem. modification for proteolytic resistance. The delivery of the peptide to a pulmonary locus may involve a nebulizer device.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 14:58:04 ON 31 JUL 2002)

L17 206 SEA ABB=ON PLU=ON L16
L18 90 SEA ABB=ON PLU=ON L17(S)(INHIBIT? OR ANTAGON? OR INTERFER?)
L19 75 DUP REM L18 (15 DUPLICATES REMOVED)
L20 33 SEA ABB=ON PLU=ON L19 AND (MEDICAMENT OR MEDICINE OR DRUG OR PHARMAC?)
L21 27 SEA ABB=ON PLU=ON L19 AND (METHOD OR TECHNIQUE OR PROCESS OR PROCEDUR?)
L22 49 SEA ABB=ON PLU=ON L20 OR L21

L22 ANSWER 1 OF 49 MEDLINE
ACCESSION NUMBER: 2002152896 MEDLINE
DOCUMENT NUMBER: 21654663 PubMed ID: 11796344
TITLE: Susceptibilities to telithromycin and six other agents and prevalence of macrolide resistance due to L4 ribosomal protein mutation among 992 Pneumococci from 10 central and Eastern European countries.
AUTHOR: Nagai Kensuke; Appelbaum Peter C; Davies Todd A; Kelly Linda M; Hoellman Dianne B; Andrasevic Arjana Tambic; Drukalska Liga; Hryniewicz Waleria; Jacobs Michael R; Kolman Jana; Miciuleviciene Jolanta; Pana Marina; Setchanova Lena; Thege Marianne Konkoly; Hupkova Helena; Trupl Jan; Urbaskova Pavla
CORPORATE SOURCE: Department of Pathology, Hershey Medical Center, Hershey, Pennsylvania 17033, USA.
SOURCE: ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (2002 Feb) 46 (2) 371-7.
Journal code: 0315061. ISSN: 0066-4804.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200205
ENTRY DATE: Entered STN: 20020312
Last Updated on STN: 20020509
Entered Medline: 20020508

AB The macrolide and levofloxacin susceptibilities of 992 isolates of Streptococcus pneumoniae from clinical specimens collected in 1999 and 2000 were determined in 10 centers in Central and Eastern European countries. The prevalences of penicillin G-intermediate (MICs, 0.125 to 1 microg/ml) and penicillin-resistant (MICs, < or =2 microg/ml) Streptococcus pneumoniae isolates were 14.3 and 16.6%, respectively. The MICs at which 50% of isolates are **inhibited** (MIC(50)s) and the MIC(90)s of telithromycin were 0.016 and 0.06 microg/ml, respectively; those of erythromycin were 0.06 and >64 microg/ml, respectively; those of azithromycin were 0.125 and >64 microg/ml, respectively; those of clarithromycin were 0.03 and >64 microg/ml, respectively; and those of clindamycin were 0.06 and >64 microg/ml, respectively. Erythromycin resistance was found in 180 S. pneumoniae isolates (18.1%); the highest prevalence of erythromycin-resistant S. pneumoniae was observed in Hungary (35.5%). Among erythromycin-resistant S. pneumoniae isolates, strains harboring erm(B) genes (125 strains [69.4%]) were found to be predominant over strains with mef(E) genes (25 strains [13.4%]), L4 **protein** mutations (28 strains [15.6%]), and erm(A) genes (2 strains [1.1%]). Similar pulsed-field gel electrophoresis patterns suggested that some strains containing L4 mutations from the Slovak Republic, Bulgaria, and Latvia were clonally related. Of nine strains highly resistant to levofloxacin (MICs, >8 microg/ml) six were isolated from Zagreb, Croatia. Telithromycin at < or =0.5 microg/ml was active against 99.8% of S. pneumoniae isolates tested and may be useful for the **treatment** of respiratory tract **infections** caused by macrolide-resistant **S. pneumoniae** isolates.

L22 ANSWER 2 OF 49 MEDLINE
ACCESSION NUMBER: 1999275816 MEDLINE
DOCUMENT NUMBER: 99275816 PubMed ID: 10348060
TITLE: **Drug**-resistant Streptococcus pneumoniae: rational antibiotic choices.
AUTHOR: Jacobs M R
CORPORATE SOURCE: Department of Pathology, Case Western Reserve University School of Medicine, University Hospitals of Cleveland, Ohio 44106, USA.
SOURCE: AMERICAN JOURNAL OF MEDICINE, (1999 May 3) 106 (5A) 19S-25S; discussion 48S-52S. Ref: 52
Journal code: 0267200. ISSN: 0002-9343.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199906
ENTRY DATE: Entered STN: 19990614
Last Updated on STN: 19990614
Entered Medline: 19990603

AB Increasingly, Streptococcus pneumoniae with reduced susceptibility to penicillin is becoming a healthcare concern, not only because of the high prevalence of infections caused by this pathogen but also because of the rate at which resistance has progressed. The incidence of penicillin resistance in strains of S. pneumoniae approaches 40% in some areas of the United States, and the incidence of high-level resistance has increased by 60-fold during the past 10

years. With the exception of meningitis and otitis media, there is no conclusive evidence that the acquisition of resistance by S. pneumoniae to beta-lactam antibiotics incurs greater morbidity and mortality in infections caused by this pathogen. However, if the current trends of resistance patterns continue, one can expect the morbidity and mortality to increase. The mechanism of beta-lactam resistance of S. pneumoniae involves genetic mutations which alter penicillin-binding **protein** structure, resulting in a decreased affinity for all beta-lactam antibiotics. In the **treatment** of **infections** caused by **S. pneumoniae**, it should not be assumed that nonsusceptibility to beta-lactam antibiotics correlates with clinical ineffectiveness of these agents. On the contrary, the recommended **therapy** for nonmeningeal pneumococcal infections (e.g., pneumonia, sepsis, acute otitis media) includes a beta-lactam antibiotic: penicillin G, amoxicillin, amoxicillin/clavulanate, cefuroxime, cefotaxime, or ceftriaxone. Recommended **therapy** for meningitis is cefotaxime or ceftriaxone, with the addition of vancomycin until susceptibility is known. These agents are recommended because of their ability to achieve serum/tissue concentrations greater than the minimum **inhibitory** concentrations (MICs) of these agents against penicillin-susceptible, penicillin-intermediate, and most penicillin-resistant strains (e.g., penicillin G, cefotaxime, ceftriaxone, amoxicillin, amoxicillin/clavulanate, and cefuroxime), or their ability to provide adequate concentrations in cerebrospinal fluid (e.g., cefotaxime, ceftriaxone).

L22 ANSWER 3 OF 49 MEDLINE
ACCESSION NUMBER: 1999265127 MEDLINE
DOCUMENT NUMBER: 99265127 PubMed ID: 10332723
TITLE: Otitis media: the chinchilla model.
AUTHOR: Giebink G S
CORPORATE SOURCE: Otitis Media Research Center, University of Minnesota School of Medicine, Minneapolis 55455, USA.
SOURCE: MICROBIAL DRUG RESISTANCE, (1999 Spring) 5 (1) 57-72. Ref: 157
Journal code: 9508567. ISSN: 1076-6294.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199907
ENTRY DATE: Entered STN: 19990730
Last Updated on STN: 19990730
Entered Medline: 19990720

AB **Streptococcus pneumoniae infection** and disease have been modeled in several animal species including infant and adult mice, infant and adult rats, infant Rhesus monkeys, and adolescent and adult chinchillas. Most are models of sepsis arising from intravenous or intraperitoneal inoculation of bacteria, and a few were designed to study disease arising from intranasal infection. Chinchillas provide the only animal model of middle ear pneumococcal infection in which the disease can be produced by very small inocula injected into the middle ear (ME) or intranasally, and in which the disease remains localized to the ME in most cases. This model, developed at the University of Minnesota in 1975, has been

used to study pneumococcal pathogenesis at a mucosal site, immunogenicity and efficacy of pneumococcal capsular polysaccharide (PS) vaccine antigens, and the kinetics and efficacy of antimicrobial **drugs**. Pathogenesis experiments in the chinchilla model have revealed variation in ME virulence among different pneumococcal serotypes, enhancement of ME infection during concurrent intranasal influenza A virus infections, and natural resolution of pneumococcal otitis media (OM) without intervention. Research has explored the relative contribution of pneumococcal and host products to ME inflammation. Pneumococcal cell wall components and pneumolysin have been studied in the model. Host inflammatory responses studied in the chinchilla ME include polymorphonuclear leukocyte oxidative products, hydrolytic enzymes, cytokine and eicosanoid metabolites, and ME epithelial cell adhesion and mucous glycoprotein production. Both clinical (tympanic membrane appearance) and histopathology (ME, Eustachian tube, inner ear) endpoints can be quantified. Immunologic and inflammatory studies have been facilitated by the production of affinity-purified antichinchilla immunoglobulin G (IgG), IgM, and secretory IgA polyclonal antibody reagents, and the identification of cross-reactivity between human and chinchilla cytokines, and between guinea pig and chinchilla C3. Alteration of ME mucosa by pneumococcal neuraminidase and alteration of ME epithelial cell (MEEC) surface carbohydrates during intranasal pneumococcal infection have been demonstrated. Pathogenesis studies have been aided by cultured chinchilla MEEC systems, in which the ability of platelet activating factor and interleukin (IL)-1 beta to stimulate epithelial mucous glycoprotein synthesis has recently been demonstrated. Because chronic OM with effusion is characterized by presence of large amounts of mucous glycoprotein in the ME, pneumococcus may have an important role in both acute and chronic ME disease. Both unconjugated PS and PS-**protein**-conjugated vaccines are immunogenic after intramuscular administration without adjuvant in chinchillas. Passive protection studies with human hyperimmune immunoglobulin demonstrated that anti-PS IgG alone is capable of protecting the chinchilla ME from direct ME challenge with pneumococci. Active PS immunization studies demonstrated protection following direct ME and intranasal pneumococcal challenge with and without concurrent influenza A virus infection. An attenuated influenza A virus vaccine also showed protection for pneumococcal OM. Antimicrobial **treatment** of acute OM has been based almost exclusively on empirical **drug** use and clinical trials without a foundation of ME **pharmacokinetics** . Studies in the chinchilla model have started to bring a rational basis to **drug** selection and dosing. Microassays have been developed using high-pressure liquid chromatography for many relevant **drugs**. Studies have explored the in vivo ME response in pneumococcal OM to antimicrobial **drugs** at supra- and sub-minimum **inhibitory** concentration (MIC), the effect of concurrent influenza A virus infection on ME **drug** penetration, and the effect of **treatment** on sensorineural hearing loss produced by pneumococcal OM.

L22 ANSWER 4 OF 49 MEDLINE
ACCESSION NUMBER: 1999013576 MEDLINE
DOCUMENT NUMBER: 99013576 PubMed ID: 9797230
TITLE: In vitro and in vivo antibacterial activities of OPC-20011, a novel parenteral broad-spectrum

2-oxaisocephem antibiotic.
AUTHOR: Matsumoto M; Tamaoka H; Ishikawa H; Kikuchi M
CORPORATE SOURCE: Microbiological Research Institute, Otsuka Pharmaceutical Co., Ltd., Tokushima City, Tokushima Prefecture 771-0192, Japan..
m.matsumoto@research.otsuka.co.jp
SOURCE: ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1998 Nov) 42 (11) 2943-9.
Journal code: 0315061. ISSN: 0066-4804.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199812
ENTRY DATE: Entered STN: 19990115
Last Updated on STN: 19990115
Entered Medline: 19981204

AB OPC-20011, a new parenteral 2-oxaisocephem antibiotic, has an oxygen atom at the 2- position of the cephalosporin frame. OPC-20011 had the best antibacterial activities against gram-positive bacteria, including methicillin-resistant Staphylococcus aureus (MRSA), Enterococcus faecalis, and penicillin-resistant Streptococcus pneumoniae: MICs at which 90% of the isolates were **inhibited** were 6.25, 6.25, and 0.05 microg/ml, respectively. Its activity is due to a high affinity of the penicillin-binding **protein** 2' in MRSA, an affinity which was approximately 1,050 times as high as that for flomoxef. Against gram-negative bacteria, OPC-20011 also showed antibacterial activities similar to those of ceftazidime. The in vivo activities of OPC-20011 were comparable to or greater than those of reference compounds in murine models of systemic infection caused by gram-positive and -negative pathogens. OPC-20011 was up to 10 times as effective as vancomycin against MRSA infections in mice. This better in vivo efficacy is probably due to the bactericidal activity of OPC-20011, while vancomycin showed bacteriostatic activity against MRSA. OPC-20011 produced a significant decrease of viable counts in lung tissue at a dose of 2.5 mg/kg of body weight, an efficacy similar to that of ampicillin at a dose of 10 to 20 mg/kg on an experimental murine model of respiratory tract **infection** caused by non-ampicillin-susceptible **S. pneumoniae** T-0005. The better **therapeutic** efficacy of OPC-20011 was considered to be due to its potent antibacterial activity and low affinity for serum **proteins** of experimental animals (29% in mice and 6.4% in rats).

L22 ANSWER 5 OF 49 MEDLINE
ACCESSION NUMBER: 84112778 MEDLINE
DOCUMENT NUMBER: 84112778 PubMed ID: 6363539
TITLE: Inhibition of antibody responses to phosphocholine by C-reactive protein.
AUTHOR: Nakayama S; Du Clos T W; Gewurz H; Mold C
CONTRACT NUMBER: AI-16082 (NIAID)
SOURCE: JOURNAL OF IMMUNOLOGY, (1984 Mar) 132 (3) 1336-40.
Journal code: 2985117R. ISSN: 0022-1767.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 198403

ENTRY DATE: Entered STN: 19900319
Last Updated on STN: 19970203
Entered Medline: 19840323

AB C-reactive **protein** (CRP) is an acute phase serum **protein** in man that binds to the cell wall C-polysaccharide (PnC) of Streptococcus pneumoniae via phosphocholine (PC) determinants. We have previously shown that in mice CRP increases splenic clearance of PnC-coated autologous erythrocytes and **S. pneumoniae**, and increases survival after pneumococcal **infection**. Because CRP alters clearance of particulate PnC antigens, we tested its effect on immunization with pneumococci. Pretreatment of mice with 50 to 200 micrograms CRP 30 min before immunization with serotype 3 S. pneumoniae resulted in dose-dependent **inhibition** of the antibody response to PC. Both serum hemagglutinin and splenic PFC against PC were decreased in CRP-**treated** mice tested from 1 to 10 days after injection of antigen. CRP **treatment** had no effect on the antibody response to the serotype 3 capsular polysaccharide, another T-independent antigen. To determine whether CRP **inhibition** was related to altered processing of particulate antigen, mice were immunized with horse red blood cells (HRBC) conjugated with PC or PnC and the PFC responses to PC and HRBC were determined. CRP **treatment** resulted in specific **inhibition** of the PFC response to PC in both cases without affecting the response to HRBC. These results indicate that **inhibition** of the antibody response by CRP is not the result of altered antigen localization and processing, and that CRP may prevent immunization by masking determinants on bacterial or other surfaces.

L22 ANSWER 6 OF 49 MEDLINE
ACCESSION NUMBER: 84086800 MEDLINE
DOCUMENT NUMBER: 84086800 PubMed ID: 6418655
TITLE: Induction of human gamma interferon by structurally defined polypeptide fragments of group A streptococcal M protein.
AUTHOR: Weigent D A; Beachey E H; Huff T; Peterson J W; Stanton G J; Baron S
CONTRACT NUMBER: AI-10085 (NIAID)
AI-13550 (NIAID)
EY01715 (NEI)
SOURCE: INFECTION AND IMMUNITY, (1984 Jan) 43 (1) 122-6.
Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198402
ENTRY DATE: Entered STN: 19900319
Last Updated on STN: 19970203
Entered Medline: 19840215

AB The presence of **interferon** (IFN) has been demonstrated previously (i) in fluids obtained from the middle ears of children with **Streptococcus pneumoniae infections**, (ii) from the serum of mice injected intraperitoneally with either S. pneumoniae or Streptococcus pyogenes, and (iii) from human lymphoid cell cultures **treated** with a variety of bacteria. In this study, we showed that highly purified peptic extracts of three different serotypes of group A streptococcal M **protein**

(pep M5, pep M6, and pep M24) stimulated human peripheral leukocytes to produce IFN. IFN production was apparent by 10 h and peaked 24 h after exposure. Dose-response experiments indicated that IFN could be detected in cultures **treated** with concentrations of M **protein** as low as 6 micrograms/ml, whereas maximum IFN production occurred at a concentration of 200 micrograms/ml. The IFN had antigenic and physicochemical characteristics of IFN-gamma. Preliminary leukocyte fractionation studies revealed that the IFN-producing cell was a nonadherent lymphocyte with receptors for sheep erythrocytes (T cell). Rabbit antisera specific for these structurally defined **polypeptide** fragments of streptococcal M **protein** (pep M5, pep M6, and pep M24) blocked IFN induction by each of the **polypeptides**. The data suggest that the different serotypes of streptococcal M **protein** may induce IFN by a common structural determinant shared by each of the **polypeptide** fragments tested.

L22 ANSWER 7 OF 49 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:284747 BIOSIS
DOCUMENT NUMBER: PREV200200284747
TITLE: [Potential use of linezolid in the treatment of infections due to Gram positive cocci. Original Title: Interet du linezolide pour le traitement des infections a cocci a Gram positif..
AUTHOR(S): Kassis-Chikhani, N.; Muller-Serieys, C. (1)
CORPORATE SOURCE: (1) Laboratoire de Bacteriologie, Groupe Hospitalier Bichat Claude Bernard, 46 Rue Henri-Huchard, 75018, Paris: claudette.muller@bch.ap-hop-paris.fr France
SOURCE: Antibiotiques, (Fevrier, 2002) Vol. 4, No. 1 Cahier 1, pp. 38-44. http://www.e2med.com/anti. print. ISSN: 1294-5501.
DOCUMENT TYPE: Article
LANGUAGE: French
AB The incidence of infections with multi-resistant Gram-positive cocci increased significantly during the last decade and bacteria responsible for community acquired **infections** (**S**. **pneumoniae**, S. aureus) became resistant to conventional antibiotics used to **treat** these infections. In spite of preventive measures, nosocomial infections due to Gram positive cocci continue to increase and **therapeutic** alternatives are decreasing. Linezolid is a member of a new class of synthetic antimicrobial agents known as oxazolidinones, whose particular mechanism of action consists in **inhibiting** the initiation of **protein** synthesis. Its spectrum of in vitro and in vivo activity includes methicillin-resistant S. aureus and coagulase-negative staphylococci (CNS), enterococci especially vancomycin and ampicillin-resistant strains, and penicillin-susceptible and resistant S. pneumoniae. So far no cross-resistance between linezolid and other antimicrobial agents has been detected. Selection of resistant mutants is difficult to obtain in vitro. **Pharmacokinetic** studies have shown that linezolid was rapidly and completely absorbed. After oral administration of multiple doses of 625 mg of linezolid, peak plasma concentration (Cmax) reached 18 mg/l and minimum plasma concentration was close to 4 mg/l at steady-state. The elimination half-life was about 5 hours and the bioavailability reached 100%. At steady-state, 30% of the dose was excreted intact in the urine. Phase III trials in skin and soft tissue infections due to Gram

positive cocci, nosocomial pneumonia and experimental endocarditis showed a similar efficacy and safety profile of linezolid and reference **treatments**.

L22 ANSWER 8 OF 49 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 2002097162 EMBASE
TITLE: Potential use of linezolid in the treatment of infections due to Gram positive cocci.
AUTHOR: Kassis-Chikhani N.; Muller-Serieys C.
CORPORATE SOURCE: C. Muller-Serieys, Groupe Hosp. Bichat Claude Bernard, Laboratoire de Bacteriologie, 46 Rue Henri-Huchard, 75018 Paris, France. claudette.muller@bch.ap-hop-paris.fr
SOURCE: Antibiotiques, (2001) 4/1 I (38-44).
Refs: 57
ISSN: 1294-5501 CODEN: ANTBFQ
COUNTRY: France
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
030 Pharmacology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The incidence of infections with multi-resistant Gram-positive cocci increased significantly during the last decade and bacteria responsible for community acquired **infections** (**S**. **pneumoniae**, S. aureus) became resistant to conventional antibiotics used to **treat** these infections. In spite of preventive measures, nosocomial infections due to Gram positive cocci continue to increase and **therapeutic** alternatives are decreasing. Linezolid is a member of a new class of synthetic antimicrobial agents known as oxazolidinones, whose particular mechanism of action consists in **inhibiting** the initiation of **protein** synthesis. Its spectrum of in vitro and in vivo activity includes methicillin-resistant S. aureus and coagulase-negative staphylococci (CNS), enterococci especially vancomycin and ampicillin-resistant strains, and penicillin-susceptible and resistant S. pneumoniae. So far no cross-resistance between linezolid and other antimicrobial agents has been detected. Selection of resistant mutants is difficult to obtain in vitro. **Pharmacokinetic** studies have shown that linezolid was rapidly and completely absorbed. After oral administration of multiple doses of 625 mg of linezolid, peak plasma concentration (Cmax) reached 18 mg/l and minimum plasma concentration was close to 4 mg/l at steady-state. The elimination half-life was about 5 hours and the bioavailability reached 100%. At steady-state, 30% of the dose was excreted intact in the urine. Phase III trials in skin and soft tissue infections due to Gram positive cocci, nosocomial pneumonia and experimental endocarditis showed a similar efficacy and safety profile of linezolid and reference **treatments**.

L22 ANSWER 9 OF 49 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 92190982 EMBASE
DOCUMENT NUMBER: 1992190982
TITLE: Cefetamet pivoxil: A review of its microbiology, toxicology, **pharmacokinetics** and clinical efficacy.

AUTHOR: Cullmann W.; Edwards D.J.; Kissling M.; Kneer J.; Stoeckel K.; Urwyler H.
CORPORATE SOURCE: Department of Clinical Research, F. Hoffmann-La Roche Ltd., Grenzacherstrasse 124,CH-4002 Basel, Switzerland
SOURCE: International Journal of Antimicrobial Agents, (1992) 1/4 (175-192).
ISSN: 0924-8579 CODEN: IAAGEA
COUNTRY: Netherlands
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 004 Microbiology
011 Otorhinolaryngology
015 Chest Diseases, Thoracic Surgery and Tuberculosis
028 Urology and Nephrology
052 Toxicology
030 Pharmacology
037 Drug Literature Index
038 Adverse Reactions Titles
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Cefetamet pivoxil is an oral, third-generation cephalosporin whose broad spectrum of antibacterial activity and favorable **pharmacokinetic** profile make it particularly suitable for the **treatment** of a wide range of infectious diseases. Cefetamet has high in vitro activity against both gram-positive and gram-negative bacteria that cause a number of respiratory tract and urinary tract **infections**. These include penicillin-sensitive **Streptococcus pneumoniae**, Streptococcus spp, Haemophilus influenzae, Moraxella catarrhalis, Escherichia coli, Proteus spp., Klebsiella spp. and Neisseria gonorrhoeae. It is not active against staphylococci, enterococci, Pseudomonas spp. or Bacteroides fragilis but does **inhibit** most bile-sensitive (oral) Bacteroides spp. Animal toxicology studies indicate that neither cefetamet pivoxil nor the active compound cefetamet have significant teratogenic, mutagenic, photogenic or allergenic potential. Cefetamet is eliminated unchanged in the urine with a half-life of 2.2 h. Volume of distribution approximates the extracellular fluid space (0.3 l/kg), **protein** binding is minimal (22%) and oral bioavailability of cefetamet pivoxil is approximately 50% when taken with food. No significant **drug** interactions have been noted to date. The efficacy and tolerability of cefetamet pivoxil have been evaluated in the **treatment** of gram-positive and gram-negative infections in almost 5,000 patients. In comparative studies, cefetamet pivoxil was at least as effective, and in many cases clinically superior, to most currently recommended antibiotics for the **treatment** of urinary tract infections including gonorrhea and complicated infections in high risk patients. Efficacy has also been demonstrated in acute exacerbations of chronic bronchitis, pneumonia and infections of the ear, nose and throat. Clinical trials have shown that a 7 day **treatment** period with cefetamet pivoxil is as effective as a 10 day course of phenoxymethylpenicillin in the **treatment** of pharyngotonsillitis. Cefetamet pivoxil has been well-tolerated in clinical trials with only 1.2% of patients on standard doses discontinuing **therapy** prematurely. The most common adverse effects are gastrointestinal (diarrhea, nausea, vomiting) which

occur in less than 10% of patients. Many current antibiotic **treatment** regimens involve the administration of three or more daily doses. However, standard doses of cefetamet pivoxil 500 mg twice daily provide unbound plasma concentrations of cefetamet which generally exceed the MIC90 for susceptible organisms throughout the dosing interval and have been demonstrated to be clinically effective. This should result in good compliance with **therapy** in out-patients. Dosing regimens for cefetamet pivoxil should be adjusted in patients with impaired renal function while standard doses can be given to elderly patients and those with liver disease. Standard doses in children are 10 mg/kg or alternatively, children may receive a dose reduced in proportion to the ratio of their body surface area to that of an adult.

L22 ANSWER 10 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-465364 [50] WPIDS
DOC. NO. CPI: C2001-140502
TITLE: New thdF polypeptides and polynucleotides obtained from Streptococcus pneumoniae, useful as research reagents for discovering treatments of and diagnostics for diseases, specifically those caused by S. pneumoniae.
DERWENT CLASS: B04 D16
INVENTOR(S): BISWAS, S; HOLMES, D J; INGRAHAM, K A; SO, C Y; VAN HORN, S; ZALACAIN, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2001053334 | A1 | 20010726 | (200150)* | EN | 39 |

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
W: JP

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2001053334 | A1 | WO 2001-US1584 | 20010118 |

PRIORITY APPLN. INFO: US 2000-487514 20000119
AN 2001-465364 [50] WPIDS
AB WO 200153334 A UPAB: 20010905
NOVELTY - An isolated polypeptide comprising a sequence that is either at least 95% identical to, comprising, or having a fully defined 457 amino acid sequence (I) given in the specification, or is encoded by a recombinant polynucleotide comprising a fully defined 1374 bp sequence (II) also given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide comprising a sequence:

(a) encoding a polypeptide having at least 95% identity to the (I);

(b) having at least 95% identity over its entire length to a

polynucleotide encoding (I);

(c) having at least 95% identity to (II);

(d) that encodes (I);

(e) that is (II);

(f) of at least 30 nucleotides in length obtained by screening an appropriate library under stringent conditions with a probe having the sequence (II) or its fragment of at least 30 nucleotides;

(g) encoding a mature polypeptide expressed by the thdF gene comprised in the Streptococcus pneumoniae; and

(h) a complement of (a)-(g);

(2) a **method** of treating an individual:

(a) in need of enhanced activity or expression of or immunological response to (I) by administering an antagonist of (I); or

(b) having the need to inhibit activity or expression of (I) by administering an antagonist of (I), a nuclei acid that inhibits the expression of a polynucleotide encoding (I), a polypeptide that competes with (I) for its ligand, substrate or receptor, or a polypeptide that induces an immunological response to the polypeptide in the individual;

(3) a **process** for diagnosing or prognosing a disease or susceptibility to a disease related to expression or activity of (I) in an individual by:

(a) determining the presence of a mutation in the nucleotide sequence encoding (I) in an organism in the individual; or

(b) analyzing for the presence or amount of the polypeptide expression in a sample derived from the individual;

(4) a **process** for producing (I) by culturing a host cell under conditions for the production of (I);

(5) a **process** for producing a host cell comprising an expression system or a membrane expressing (I) by transforming or transfecting a cell with an expression system comprising a polynucleotide capable of producing (I) when the expression system is present in a compatible host cell such that the host cell produces the polypeptide;

(6) a host cell or a membrane expressing (I);

(7) an antibody immunospecific for (I);

(8) a **method** for screening to identify compounds that agonize or inhibit the function of (I) by:

(a) measuring the binding of a candidate compound to the polypeptide (or to the cells or membranes bearing the polypeptide) or a fusion protein by means of a label directly or indirectly associated with the candidate compound, or in the presence of a labeled competitor;

(b) testing whether the candidate compound results in a signal generated by activation or inhibition of the polypeptide, using detection systems appropriate to the cells or cell membranes bearing the polypeptide;

(c) mixing the candidate compound with a solution comprising (I) to form a mixture, measuring activity of the polypeptide in the mixture, and comparing the activity of a mixture to a standard; or

(d) detecting the effect of a candidate compound on the production of mRNA encoding the polypeptide and the polypeptide in cells, using for instance, an ELISA assay; and

(9) an agonist or antagonist to the (I).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Peptide therapy; gene therapy.

USE - The polynucleotides and polypeptides may be used as

research reagents and materials for the discovery of treatments of and diagnostics for diseases, particularly human diseases, in determining disease stage, course, the response of an infectious organism to drugs, determining the susceptibility to a disease. The polynucleotides and polypeptides are particularly useful for diagnosing bacterial infections, specifically infections caused by Streptococcus pneumoniae. These may further be used to for screening compounds that antagonize or agonize the functions of the polypeptides and polynucleotides, to configure screening methods for detecting the effect of added compounds on the production of mRNA and/or polypeptide in cells, to identify membrane bound or soluble receptors, and to prevent the adhesion of bacteria to eukaryotic, preferably mammalian, extracellular matrix protein on in-dwelling devices to extracellular matrix proteins in wounds, to block bacterial adhesion between eukaryotic extracellular matrix proteins and bacterial thdF proteins that mediate tissue damage, or to block normal progression of pathogenesis in infections initiated other than by implantation of in-dwelling devices or by other surgical techniques. The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full length cDNAs and genomic clones encoding thdF, and to isolate cDNA and genomic clones of other genes that have a high identity, particularly high sequence identity to a thdF gene.
Dwg.0/0

L22 ANSWER 11 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-226696 [23] WPIDS
DOC. NO. CPI: C2001-067684
TITLE: New DnaE polypeptides of Streptococcus pneumoniae for diagnosing and treating microbial infections, especially infection by Streptococcus pneumoniae and Helicobacter pylori.
DERWENT CLASS: B04 D16
INVENTOR(S): MAY, E; VAN HORN, S; WARREN, P V; WARREN, R L
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2001016351 | A1 | 20010308 | (200123)* | EN | 43 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| US 6280990 | B1 | 20010828 | (200151) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2001016351 | A1 | WO 2000-US22973 | 20000822 |
| US 6280990 | B1 | US 1999-387695 | 19990831 |

PRIORITY APPLN. INFO: US 1999-387695 19990831
AN 2001-226696 [23] WPIDS
AB WO 200116351 A UPAB: 20010425
NOVELTY - An isolated DnaE polypeptide (I) of Streptococcus

pneumoniae comprising a sequence having at least 95 % identity to a sequence (S1) of 1042 amino acids, given in the specification, a sequence comprising S1, S1, or a sequence encoded by a recombinant polynucleotide comprising a sequence (S2) of 3129 nucleotides given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide (II) selected from a polynucleotide comprising a sequence encoding a polypeptide having at least 95 % identity to S1, a polynucleotide having at least 95 % identity to a sequence encoding S1, a polynucleotide comprising a sequence having at least 95 % identity to S2, a polynucleotide encoding S1, S2, a polynucleotide with a sequence of at least 30 nucleotides in length obtained by screening an appropriate library under stringent hybridization conditions with a probe having S1, or its fragment having at least 30 nucleotides in length, a polynucleotide encoding a mature polypeptide expressed by the dnaE gene comprised in S. pneumoniae, or a polynucleotide complementary to the above polynucleotides;

(2) treating an individual:

(i) in need of enhanced activity or expression of or immunological response to (I) comprising administering an antagonist of (I); or

(ii) having need to inhibit activity or expression of (I) comprising administering:

(a) an antagonist to (I);

(b) a nucleic acid that inhibits the expression of a polynucleotide sequence encoding (I);

(c) a polypeptide that competes with (I) for its ligand, substrate, or receptor; or

(d) a polypeptide that induces an immunological response to (I) in the individual;

(3) diagnosing or prognosing a disease or susceptibility to a disease in an individual related to the expression or activity of (I), comprising determining the presence or absence of a mutation in the nucleotide sequence encoding (I) in an organ of the individual, or analyzing for the presence or the amount of expression of (I) in a sample derived from the individual;

(4) producing (I) comprising culturing host cell;

(5) producing a host cell or a membrane, comprising an expression system capable of expressing (I), by transforming or transfecting a cell with an expression system comprising a polynucleotide capable of producing (I) when the expression system is present in a compatible host cell, such that the host cell produces (I) under appropriate conditions;

(6) a host cell or its membrane (III), capable of expressing (I);

(7) an antibody (Ab) immunospecific for (I);

(8) screening to identify compounds which agonize or inhibit the function of (I), by:

(a) measuring the binding of a candidate compound (CC) to (I), (III) or a fusion protein comprising (I), using a label, directly or indirectly associated with CC;

(b) measuring the binding of CC to (I), (III) or a fusion protein comprising (I), in the presence of a labeled competitor;

(c) testing whether CC results in signal generated by activation or inhibition of (I), using detection systems appropriate to (III);

(d) mixing CC with a solution containing (I) to form a mixture, measuring activity of (I) in the mixture, and comparing the activity of the mixture to a standard; or

(e) detecting the effect of CC on the production of mRNA encoding (I), and (I) in cells, using for instance, an enzyme linked immunosorbant assay (ELISA); and

(9) an agonist or antagonist of (I).

ACTIVITY - Antimicrobial; cytostatic; antiulcer; antiinflammatory.

MECHANISM OF ACTION - Gene therapy; vaccine. No biological data is given.

USE - An **antagonist** of (I) is useful for **treating** an individual in need of enhanced activity or expression of or immunological response to (I). An **antagonist** of (I), a nucleic acid molecule that **inhibits** expression of a nucleic acid (II) encoding (I), a **polypeptide** that competes with (I) for its ligand, substrate or receptor, and a **polypeptide** that induces an immunological response to (I) are useful for **inhibiting** activity or expression of (I) (claimed). (I) and (II) are useful for **treating** and diagnosing microbial **infections** such as **infection** caused by **S. pneumoniae** and Helicobacter pylori. (I) and (II) are useful for **treating** diseases such as H. pylori-induced cancers, e.g. gastrointestinal carcinoma, gastric ulcers, and gastritis.

Dwg.0/0

L22 ANSWER 12 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-016077 [02] WPIDS
DOC. NO. CPI: C2001-004433
TITLE: Novel 5-enolpyruvylshikimate-3-phosphate synthase protein from Streptococcus pneumoniae useful for identifying agonists and antagonists of aroA activity for treating otitis media, conjunctivitis and pneumonia.
DERWENT CLASS: B04 D16
INVENTOR(S): BROWN, J R; CHALKER, A F; DU, W; KATZ, L K; MAZZULLA, M J; PAYNE, D J; TRAINI, C M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 27
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000068243 | A1 | 20001116 | (200102)* | EN | 70 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP US | | | | | |
| EP 1179002 | A1 | 20020213 | (200219) | EN | |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000068243 | A1 | WO 2000-US12251 | 20000504 |
| EP 1179002 | A1 | EP 2000-928848 | 20000504 |

WO 2000-US12251 20000504

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| EP 1179002 | A1 Based on | WO 200068243 |

PRIORITY APPLN. INFO: US 1999-133070P 19990507
AN 2001-016077 [02] WPIDS
AB WO 200068243 A UPAB: 20010110
NOVELTY - A polypeptide (I) comprising 70 % identity to a 427 residue amino acid sequence (S2), fully defined in the specification, and corresponding to 5-enolpyruvylshikimate-3-phosphate synthase (AroA) from Streptococcus pneumoniae, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide (II) comprising 70 % identity to a polynucleotide encoding a polypeptide comprising (S2), or to a polynucleotide encoding the same mature polypeptide expressed by the aroA gene contained in the S. pneumoniae of the deposited strain, or comprising a sequence encoding (I), a sequence complementary to the above mentioned polynucleotides, or a sequence which comprises at least 15 sequential bases of the above mentioned polynucleotides;

(2) a vector (III) comprising (II);

(3) a host cell (IV) comprising (III);

(4) preparation of (I), comprising culturing (IV) under optimum conditions sufficient for the production of the polypeptide or its fragment;

(5) an antibody (V) against (I);

(6) identifying compounds which interact with and inhibit or activate an activity of (I), comprising:

(a) contacting a composition comprising the polypeptide with the compound to be screened under interaction conditions, the interaction being associated with a second component capable of providing detectable signal in response to the interaction of the polypeptide with the compound; and

(b) determining if the compound interacts with and activates or inhibits an activity of the polypeptide by detecting the presence or absence of a signal generated from the interaction of the compound with the polypeptide;

(7) an antagonist (VI) which inhibits the activity or expression of (I);

(8) an antagonist that inhibits, or an agonist (VII) that activates, an activity of the polypeptide which comprises 90 % identity to (S2) or a 415 residue amino acid sequence (S4), fully defined in the specification, the activity of the protein being:

(a) synthesis of p-aminobenzoate and ubiquinone;

(b) transformation of phospho(enol)pyruvate (PEP) and shikimate 3-phosphate (S3P) to 5-enolpyruvylshikimate-3-phosphate synthase (EPSP) an inorganic phosphate (Pi);

(c) transformation of EPSP and Pi to PEP and S3P;

(d) binding of

(i) AroA and PEP;

(ii) AroA to PEP-pyruvate kinase complex;

(iii) AroA to PEP-lactate dehydrogenase complex; and

(iv) AroA and S3P;

(e) competitive inhibition of the forward reaction of AroA by

(i) glyphosate versus PEP (ii) EPSP versus PEP and (iii) EPSP versus S3P;

(f) competitive inhibition of the reverse reaction of AroA by S3P versus EPSP;

(g) uncompetitive inhibition of the forward reaction of AroA by glyphosate versus S3P;

(h) uncompetitive inhibition of the reverse reaction of AroA by (i) glyphosate versus EPSP and (ii) S3P versus Pi; and

(i) noncompetitive inhibition of the reverse reaction of AroA by glyphosate versus Pi;

(9) treating an individual infected with bacteria by administering a compound that is a competitive inhibitor of S3P substrate use by AroA;

(10) inhibiting an activity of AroA, and a conversion of acetyl-CoA to a product or conversion of malonyl-ACP to product, comprising contacting a composition comprising bacteria with a compound that inhibits the activity for a sufficient time to cause killing or slowing growth of the bacteria; and

(11) inhibiting growth of bacteria.

ACTIVITY - Antibacterial; antiinflammatory; ophthalmological. No biological data is given.

MECHANISM OF ACTION - AroA activity inhibitors; immune response stimulator; bacterial adherence to damaged tissues, inhibitor; gene therapy.

USE - (I) is useful for treating an individual in need of AroA polypeptide. (I) and (II) are useful as diagnostic reagents for diagnosing a disease related to their expression or activity in an individual which comprises determining a nucleic acid sequence encoding the polypeptide and/or analyzing for the presence or amount of the polypeptide in a sample derived from the individual. (I) is useful for inducing an immunological response in a mammal comprising inoculating the polypeptide, its fragment or variant, or delivering a nucleic acid vector to direct expression of the polypeptide in vivo, in order to induce an immunological response to produce antibody and/or T-cell immune response to protect the animal from the disease. (VI) is useful for inhibiting the activity of the AroA polypeptide and for inhibiting the growth of a bacterial composition and also for inhibiting AroA polypeptide. (VII) is used to inhibit or activate AroA polypeptide and for treating individuals infected with bacteria of the genus Staphylococcus, S. aureus, a member of Streptococcus genus such as Streptococcus pneumoniae. (All claimed). (I), its antagonists and agonists are useful for treating otitis media, conjunctivitis, pneumonia, bacteremia, meningitis, sinusitis, pleural empyema and endocarditis and most particularly meningitis. (II) is useful for gene therapy techniques. The polynucleotides may be used as hybridization probes to isolate full length cDNAs and genomic clones encoding AroA and to isolate cDNA and genomic clones of other genes that have a high sequence similarity to the AroA gene. (I) and (II) are also useful as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The DNA sequences may be used in the discovery of antibacterial compounds and to construct antisense sequences to control the expression of the coding sequence of interest. The encoded protein is useful as a target for screening antibacterial drugs. The polynucleotides or its fragments which encode non-variable regions of the bacteria cell surface proteins in DNA constructs used in the genetic immunization experiments in animal models of Streptococcus pneumoniae infections are useful in

identifying protein epitopes able to provoke a prophylactic or therapeutic immune response. The polypeptides are used as antigens for vaccination of a host to produce specific antibodies which protect against invasion of bacteria by blocking adherence of bacteria to damaged tissues such as wounds in the skin or connective tissue caused by mechanical, chemical or thermal damage, or by implantation of indwelling devices, or wounds in the mucous membranes. The novel molecules are useful for preventing adhesion of gram positive and/or gram negative bacteria, to mammalian extracellular matrix proteins on in-dwelling devices or to extracellular matrix proteins in wounds, to block AroA protein-mediated cell invasion by initiating phosphorylation of mammalian tyrosine kinases, to block bacterial adhesion between mammalian extracellular matrix proteins and bacterial AroA proteins that mediate tissue damage and/or to block the normal progression of pathogenesis in infections initiated other than by the implantation of in-dwelling devices or by other surgical techniques.
Dwg.0/6

L22 ANSWER 13 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-687653 [67] WPIDS
DOC. NO. CPI: C2000-209393
TITLE: Streptococcus pneumoniae yphC protein and DNA sequence, useful for treating infections, meningitis, and bacteremia.
DERWENT CLASS: B04 D16
INVENTOR(S): BISWAS, S; BURNHAM, M K R; CHALKER, A F; HOLMES, D J; INGRAHAM, K A; SO, C Y; TRAINI, C M; VAN HORN, S; WARREN, P V; WARREN, R L; ZALACAIN, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 19
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000068427 | A1 | 20001116 | (200067)* | EN | 39 |

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: JP

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000068427 | A1 | WO 2000-US11894 | 20000502 |

PRIORITY APPLN. INFO: US 1999-307003 19990507
AN 2000-687653 [67] WPIDS
AB WO 200068427 A UPAB: 20001223
NOVELTY - A novel isolated polypeptide (A) comprising the 436 residue Streptococcus pneumoniae yphC (GTP binding proteins) family protein given in the specification.
DETAILED DESCRIPTION - A novel isolated polypeptide (A), yphC, comprises:
(1) an isolated polypeptide comprising an amino acid (aa) sequence having at least 95% identity to aa sequence (I) of 436 aa from Streptococcus pneumoniae given in the specification, over the

entire length of (I);

(2) an isolated polypeptide comprising (I);

(3) an isolated polypeptide which is (I); or

(4) a polypeptide which is encoded by a recombinant polynucleotide comprising polynucleotide sequence (II) of 1311 base pairs (bp) given in the specification.

INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide selected from:

(i) an isolated polynucleotide comprising a polynucleotide sequence encoding a polypeptide with at least 95% identity to (I), over the entire length of (I);

(ii) an isolated polynucleotide comprising a polynucleotide sequence that has at least 95% identity over its entire length to a polynucleotide sequence encoding (I);

(iii) an isolated polynucleotide comprising a nucleotide sequence that has at least 95% identity to (II), over the entire length of (II);

(iv) an isolated polynucleotide comprising a nucleotide sequence encoding (I);

(v) an isolated polynucleotide which is (II);

(vi) an isolated polypeptide at least 30 nucleotides long, obtained by screening an appropriate library under stringent hybridization conditions with a probe having the sequence of (II), or a fragment of (II) at least 30 nucleotides long;

(vii) an isolated polynucleotide encoding a mature polypeptide expressed by the yphC gene contained in Streptococcus pneumoniae; and

(viii) a polynucleotide complementary to the isolated polynucleotide of (i)-(vii);

(2) a **method** for the treatment of an individual:

(a) in need of enhanced activity or expression of or immunological response to (A), comprising administering to the individual an antagonist to (A); or

(b) in need of inhibition of activity or expression of (A), comprising administering an antagonist to the polypeptide, a nucleic acid molecule that inhibits the expression of a polynucleotide sequence encoding (A), a polypeptide that competes with the (A) for its ligand, substrate, or receptor, or a polypeptide that induces an immunological response to (A) in the individual;

(3) a **process** for diagnosing or prognosing a disease or a susceptibility to a disease in an individual related to expression of (A) in an individual, comprising determining the presence or absence of a mutation in the nucleotide sequence encoding (A) in an organism of the individual; or analyzing for the presence or amount of expression of (A) in a sample derived from the individual;

(4) a **process** for producing (A), comprising culturing a host cell under conditions sufficient for the production of the polypeptide;

(5) a **process** for producing a host cell comprising an expression system or a membrane expressing (A), comprising transforming or transfecting a cell with an expression system comprising a polynucleotide capable of producing (A) when the expression system is present in a compatible host cell, such that the host cell under culture conditions produces the polypeptide;

(6) a host cell or a membrane expressing (A);

(7) an antibody antigenic to or immunospecific for (A);

(8) a **method** for screening to identify compounds that

activate or inhibit the function of (A), comprising a **method** selected from:

(a) measuring the binding of a candidate compound to (A) or to the cells or membranes bearing (A) or a fusion protein of it, by means of a label directly or indirectly associated with the candidate compound;

(b) measuring the binding of a candidate compound to (A) or to the cells or membranes bearing (A) or a fusion protein of it in the presence of a labeled competitor;

(c) testing whether the candidate compound results in a signal generated by activation or inhibition of (A), using detection systems appropriate to the cells or cell membranes bearing (A);

(d) mixing a candidate compound with a solution with a solution containing (A) to form a mixture, measuring activity of (A) in the mixture, and comparing the activity of the mixture to a standard; or

(e) detecting the effect of a candidate compound on the production of mRNA encoding (A) in cells, using e.g. an enzyme linked immunosorbent assay (ELISA) assay; and

(9) an agonist or antagonist to (A).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - None given.

USE - The DNA sequence can be used to transform a host cell to produce the protein (claimed). The products can be used to treat bacterial infections (especially Streptococcus pneumoniae infections, and Helicobacter pylori infections), otitis media, conjunctivitis, pneumoniae, bacteremia, meningitis, sinusitis, pleural empyema, and endocarditis.

Dwg.0/0

L22 ANSWER 14 OF 49 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2000-687324 [67] WPIDS

DOC. NO. CPI: C2000-209213

TITLE: Novel isolated YycG polypeptide of Streptococcus pneumoniae and polynucleotides encoding polypeptides useful as diagnostic reagent for diagnosing a disease related to expression or activity of polypeptide.

DERWENT CLASS: B04 D16

INVENTOR(S): BISWAS, S; BRYANT, A; BURNHAM, M K R; CHALKER, A F; HOLMES, D J; INGRAHAM, K A; SO, C Y; THROUP, J P; VAN HORN, S; WARREN, R L; ZALACAIN, M

PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC

COUNTRY COUNT: 19

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000065026 | A2 | 20001102 | (200067)* | EN | 43 |

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: JP

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000065026 | A2 | WO 2000-US10991 | 20000424 |

PRIORITY APPLN. INFO: US 1999-300489 19990428
AN 2000-687324 [67] WPIDS
AB WO 200065026 A UPAB: 20001223
NOVELTY - An isolated YycG polypeptide of Streptococcus pneumoniae (I) having a 449 residue amino acid sequence (S2), fully defined in the specification, is new.

DETAILED DESCRIPTION - An isolated YycG polypeptide of Streptococcus pneumoniae (I) having a 449 residue amino acid sequence (S2), fully defined in the specification, is new. (I) is an isolated polypeptide comprising a polypeptide sequence having 95 % identity to (S2) over its entire length, an isolated polypeptide comprising (S2), an isolated polypeptide that is (S2), or is a polypeptide encoded by the recombinant polynucleotide comprising a 1350 nucleotide sequence (S1), fully defined in the specification.

INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide (II) comprising:

(a) a polynucleotide sequence encoding a polypeptide having 95 % identity to (S2) over its entire length;

(b) a polynucleotide sequence encoding (S2) having 95 % identity over its entire length to a polynucleotide sequence encoding (S2),

(c) a nucleotide sequence that has 95% identity to (S1) over its entire length, an isolated polynucleotide sequence comprising a nucleotide sequence encoding (S2);

(d) a nucleotide sequence which is (S1);

(e) a sequence at least 30 nucleotides in length obtained by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (S1), or its fragment having 30 nucleotides;

(f) a sequence encoding a mature polypeptide expressed by the YycG gene comprised in S. pneumoniae; or

(g) the complement of any of (a)-(f);

(2) preparation of (I);

(3) a **process** for producing a host cell comprising an expression system or its membrane expressing (I), comprising transforming or transfecting a cell with an expression system comprising (II) so that when the expression system is present in a host cell, the host cell produces (I), under appropriate culture conditions;

(4) a host cell (III) or its membrane expressing (I);

(5) an antibody (IV) immunospecific to (I);

(6) screening to identify compounds that agonize or inhibit the function of (I), comprising:

(a) measuring the binding of a candidate compound to the polypeptide, cells or membranes bearing the polypeptide, or a fusion protein, by means of a label directly or indirectly associated with the candidate compound;

(b) measuring the binding of a candidate compound to the polypeptide or a fusion protein in the presence of a labeled competitor;

(c) testing if the candidate compound results in a signal generated by activation or inhibition of the polypeptide using detection systems appropriate to the cells or cell membranes bearing the polypeptide, mixing the candidate compound with the solution containing (I) to form a mixture;

(d) measuring the activity of the polypeptide in the mixture and comparing the activity of the mixture to a standard; or

(e) detecting the effect of a candidate compound on the production of mRNA encoding the polypeptide and the polypeptide in the cells by enzyme linked immunosorbent assay (ELISA); and

(7) agonists or antagonists (V) of (I).

ACTIVITY - Antibacterial; cytostatic; antiinflammatory; antiulcer. No biological data is given.

MECHANISM OF ACTION - Initial physical attraction between the pathogen and mammalian extracellular protein, blocker; gene therapy.

USE - (II) is useful as a diagnostic reagent for diagnosing a disease or a susceptibility to a disease in a subject related to expression or activity of (I) in a subject. The **method** comprises determining the presence or absence of a mutation in the nucleotide sequence encoding the **polypeptide** in the genome of a subject and/or analyzing for the presence or amount of the **polypeptide** expression in sample derived from the subject. (V) is used for **treating** a subject in need of enhanced activity or expression (I) or **treating** subjects having need to **inhibit** activity or expression of (I). (All claimed). The **polypeptides** may also be used to identify membrane bound or soluble receptors. Polynucleotides are also useful as hybridization probes for cDNA and genomic DNA, or as primers for a nucleic acid amplification reaction, to isolate full length cDNAs and genomic clones encoding (I) and to isolate cDNA and genomic clones of other genes. The **polypeptides** can also be used in the structure-based design of an agonist, **antagonist** or **inhibitor** of the **polypeptide**. The novel **polypeptides** and polynucleotides are useful as research reagents and materials for discovery of **treatments** and diagnosis of human diseases. (II) is also used for diagnosing a bacterial **infection**, caused by **S. pneumoniae** in a biological sample derived from an individual. YycG **polypeptide** overexpression can be used to detect the presence of infection in tissue samples from diseased individuals on comparison to normal tissue samples. The novel **polypeptides** and polynucleotides are useful for **treating** abnormal conditions such as a disease, related to either an excess of, an under expression of, elevated activity of, or decreased activity of YycG **polypeptide** and/or polynucleotide. The polynucleotide sequences can also be used in the discovery and development of antibacterial compounds. The novel **polypeptides**, polynucleotides, agonist or **antagonist** are useful in **interfering** with the initial physical attraction between a pathogen and a mammalian host which is responsible for further infection. The novel molecules are useful for preventing adhesion of gram positive and/or gram negative bacteria, to mammalian extracellular matrix **proteins** on in-dwelling devices or to extracellular matrix **proteins** in wounds, to block bacterial adhesion between eukaryotic, preferably mammalian, extracellular matrix **proteins** and bacterial YycG **proteins** that mediate tissue damage and/or to block the normal progression of pathogenesis in infections initiated other than by the implantation of in-dwelling devices or by other surgical **techniques**. The antimicrobial compounds (agonists and **antagonists** of YycG **polypeptides** and/or polynucleotides) are useful in the **treatment** of Helicobacter pylori infection such as H. pylori induced cancers, gastric ulcers and gastritis. The agonist and **antagonist** are employed as bacteriostatic or bactericidal agonist and

**antagonist**, to prevent, **inhibit** and/or **treat** diseases.
Dwg.0/0

L22 ANSWER 15 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-679497 [66] WPIDS
DOC. NO. CPI: C2000-206646
TITLE: Novel polypeptide and polynucleotide of gyrase family useful for diagnosis and treatment of microbial diseases and for identifying antibacterial compounds.
DERWENT CLASS: B04 D16
INVENTOR(S): WARREN, R L; WILDING, E I
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000061787 | A2 | 20001019 | (200066)* | EN | 58 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| US 6346397 | B1 | 20020212 | (200219) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000061787 | A2 | WO 2000-US9661 | 20000412 |
| US 6346397 | B1 Provisional | US 1999-128991P | 19990412 |
| | | US 2000-546990 | 20000411 |

PRIORITY APPLN. INFO: US 1999-128991P 19990412; US 2000-546990 20000411
AN 2000-679497 [66] WPIDS
AB WO 200061787 A UPAB: 20001219
NOVELTY - An isolated gyrA (a member of Gyrase family) polypeptide (I) of Streptococcus pneumoniae, comprising a sequence having at least 70 %, 80 %, 90 % or 95 % identity to an 841 residue amino acid sequence, fully defined in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide (II) encoding (I), comprising a nucleotide sequence that has at least 70 %, 80 %, 90 % or 95 % identity to a 5449 base pair sequence, fully defined in the specification, or its complement or a polynucleotide obtained by screening a library under stringent hybridization conditions with a labeled probe having the sequence of (II) or its fragment;

(2) an expression system (III) comprising (II) present in a compatible host cell;

(3) producing a recombinant host cell by transforming a cell with (III), so that the host cell produces (I);

(4) a recombinant host cell (IV) comprising (III), or produced by the **method** of (3), or its membrane expressing (I);

(5) preparation of (I), comprising culturing (IV) under expression conditions and recovering the polypeptide;

(6) an antibody immunospecific for (I);
(7) an agonist or antagonist to (I);
(8) a computer readable medium having stored (I) or (II), a data set representing (I) or (II); and
(9) a computer based **method** for performing homology identification, comprising providing (II) in a computer readable medium and comparing the polynucleotide sequence to at least one polynucleotide or polypeptide sequence to identify homology.

ACTIVITY - Antibiotic; Antiinflammatory; Auditory; Antiulcer. No biological data is given.

MECHANISM OF ACTION - Vaccine; gene therapy.

USE - Agonists or **antagonists** to (I) or nucleic acid molecules that enhance or **inhibit** the expression of (II), are useful for **treating** an individual in need of enhanced activity or to **inhibit** the expression of (I). (I) and (II) are useful for diagnosing a disease or a susceptibility to a disease in an individual by determining the presence or absence of a mutation in the nucleotide sequence encoding (I) in the genome of the individual, or by analyzing for the presence of expression of (I) in a sample derived from the individual. (I) is also useful for screening compounds which **inhibit** or stimulate the function of (I) by using a label directly or indirectly associated with the compound. Alternatively, the screening **methods** involve competition with a labeled competitor. These screening **methods** may test if the compound results in a signal generated by activation or **inhibition** of the **polypeptide**, using a detection system appropriate to the cells bearing the **polypeptide**. Further the screening **methods** comprise mixing a candidate compound with a solution comprising the **polypeptide**, and measuring the activity of the **polypeptide** in the mixture and comparing the activity to a standard, or by detecting the effect of the compound on the production of mRNA encoding the **polypeptide** by enzyme linked immunosorbent assay (ELISA). A composition comprising the **polypeptide** is contacted with the compound to be screened under conditions to permit interaction between them, and the interaction is associated with a second component capable of providing a detectable signal which is determined (all claimed). (II) may be used as a hybridization probe for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding (I). (I) is useful as an immunogen to produce antibodies immunospecific for the **polypeptides**. (I) and (II) are useful as vaccines for inducing an immunological response in a mammal, to protect against bacterial **infections**, in particular **Streptococcus pneumoniae infection**, and for preventing adhesion of bacteria to extracellular matrix **proteins** on in-dwelling devices or to extracellular matrix **proteins** in wounds. The **antagonists** and agonists identified using (I) are useful in the prevention, or **treatment** of Helicobacter pylori infection such as gastrointestinal carcinoma, gastric ulcer and gastritis. (I) and (II) are useful as components in databases useful for search analysis as well as in sequence analysis algorithms. Diseases **treated** include infection by a bacteria, for example otitis media, conjunctivitis, pneumonia, bacteremia, meningitis, sinusitis, pleural empyema, endocarditis and particularly meningitis.
Dwg.0/0

L22 ANSWER 16 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-548599 [50] WPIDS
DOC. NO. NON-CPI: N2000-405865
DOC. NO. CPI: C2000-163688
TITLE: Streptococcus pneumoniae fabZ proteins useful for diagnosing and treating microbial infections.
DERWENT CLASS: B04 D16 S03 T01
INVENTOR(S): KONSTANTINIDIS, A K; RUSSELL, R B; WARREN, P V; KONSTANTINIDIS, A
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000030662 | A1 | 20000602 | (200050)* | EN | 51 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| US 6277595 | B1 | 20010821 | (200150) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000030662 | A1 | WO 1999-US26435 | 19991109 |
| US 6277595 | B1 | US 1998-196388 | 19981119 |

PRIORITY APPLN. INFO: US 1998-196388 19981119
AN 2000-548599 [50] WPIDS
AB WO 200030662 A UPAB: 20001010
NOVELTY - Nucleic acids (I) encoding a polypeptide (II) designated fabZ, a member of the fatty acid biosynthetic pathway family of proteins from Streptococcus pneumoniae.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:
(1) an isolated polynucleotide (I), comprising either:
(a) a polynucleotide comprising a sequence encoding a polypeptide that has 70-95% identity with a fully defined 140 amino acid sequence (IIa) (given in the specification);
(b) a polynucleotide comprising a sequence that has 70-95% identity to a polynucleotide sequence encoding (IIa) over its entire length;
(c) a isolated polynucleotide comprising a sequence that has 70-95% identity to a defined 423 nucleotide sequence (Ia) given in the specification;
(d) a polynucleotide which encodes (IIa)
(e) a polynucleotide comprising (Ia);
(f) a polynucleotide obtained by screening a library under stringent conditions with a probe comprising (Ia);
(g) an isolated polynucleotide sequence encoding a mature fabZ protein of S. pneumoniae; and/or
(h) a sequence complementary to (a)-(g);
(2) a polypeptide selected from:
(a) a peptide comprising an amino acid sequence having 70-95% identity to (IIa) over its entire length;
(b) a peptide comprising (IIa);

(c) a peptide that is (IIa); and/or
(d) a polypeptide encoded by a recombinant polynucleotide comprising (Ia);
(3) an antibody (III) antigenic for (Ia);
(4) a **method** (IV) for the treatment of an individual:
(a) in need of enhanced activity or expression of (II), comprising:
(i) administering an agonist of (II); and/or
(ii) providing the individual with (II) to produce the polypeptide (and its activity) in vivo; or
(b) in need of inhibited activity of (II), comprising:
(i) administering an antagonist of (II); and/or
(ii) administering a nucleic acid molecule that inhibits the expression of (I); and/or
(iii) administering a polypeptide that competes with the polypeptide for its ligand, substrate or receptor;
(5) a **method** (V) for diagnosing or prognosing a disease or a susceptibility to a disease in an individual related to expression or activity of (II), comprising:
(a) determining the presence or absence of a mutation in the sequence (IIa) in the genome of the individual; and/or
(b) analyzing and quantifying the presence of the polypeptide (II) in a sample from the individual;
(6) a **method** (VI) for screening to identify compounds that activate or inhibit the function of (II), comprising:
(a) measuring the binding of a candidate compound (CC) to (II) or to cells or membranes bearing (II) (of a fusion protein of (II)) using a label directly or indirectly associated with the CC;
(b) measuring the binding of a CC to (II) or to cells or membranes bearing (II) (of a fusion protein of (II)) in the presence of a labeled competitor;
(c) testing whether a CC results in a signal generated by activation or inhibition of (II), using detection systems appropriate to the cells or membranes bearing (II);
(d) mixing a CC with a solution containing (II) and measuring the activity of the polypeptide in the mixture, and comparing that activity to a standard;
(e) detecting the effect of a CC on the production of mRNA encoding (II) and (II) in cells using, for example, an enzyme linked immunosorbant assay; and/or
(f) a method comprising:
(i) contacting (II) with the CC and assessing their interactions ; and
(ii) determining whether the compound interacts with and activates or inhibits the activity of (II) by detecting the presence of absence of a signal generated from the interaction of the compound and polypeptide);
(7) an (ant)agonist (VII) of the expression or activity of (I);
(8) an expression system (VIII) comprising the polynucleotide (I) and capable of expressing (II) when present in a host cell;
(9) a host cell (IX) comprising (VIII) or a membrane expressing (II);
(10) a process (X) for producing a polypeptide comprising culturing (IX);
(11) a process (XI) for producing (IX) or a membrane of (IX) expressing (II), comprising transforming/transfecting a cell with (VIII), so that the cell expresses (II);
(12) a computer readable medium (XII), upon which is stored:

(a) (Ia) or sequence(s) comprising (Ia) (and/or other polynucleotide sequences);

(b) (IIa) or sequence(s) comprising (IIa) (and/or other polypeptide sequences);

(c) a data set representing (Ia);

(d) a data set representing polynucleotides encoding (IIa);

(13) a computer based method (XIII) for performing homology identification, comprising providing a sequence comprising (Ia) in a computer readable medium and comparing that sequence to other polypeptides and polynucleotide to identify sequence homology;

(14) a computerized method (XIV) for polynucleotide assembly, comprising providing a nucleic acid comprising (Ia) in a computer readable medium and screening for at least 1 overlapping region between that polynucleotide sequence and a second polynucleotide sequence; and

(15) a polynucleotide (XV) of the formula:

5' X-(R1)m-(R2)-(R3)n-Y 3'

X = H, a metal or a modified nucleotide residue or together with Y defines a covalent bond;

Y = H, a metal or a modified nucleotide residue or together with X defines a covalent bond;

R1 and R3 = any nucleic acid residue or modified nucleic acid residue;

R2 = the nucleotide sequence (Ia); and

m and n = 0-3000.

ACTIVITY - Bactericide.

MECHANISM OF ACTION - Vaccine.

No data given.

USE - (I) and (II) may be used in the prevention, treatment and diagnosis of diseases associated with fabZ expression and Streptococcal infection.

(I) or (II) may be administered to treat diseases by rectifying mutations or deletions in a genome that affect the activity of fabZ by expressing inactive proteins or to supplement the production of fabZ polypeptides. Additionally, (I) may be used to produce fabZ, according to standard recombinant DNA methodology, by inserting the nucleic acids into a host cell and culturing the cell to express the protein (either in vitro or in vivo). Antisense nucleic acid molecules may be administered to down regulate fabZ expression by binding with the cells own fabZ genes and preventing their expression.

(I) and complementary sequences may be used as probes in diagnostic assays to detect the presence of fabZ in samples.

The polypeptides may be used as antigens in the production of antibodies against fabZ and in assays to identify modulators of fabZ expression and activity. The anti-fabZ antibodies and fabZ antagonists may also be used to down regulate fabZ expression and activity. They may be used to treat S. pneumoniae infections.

The anti-fabZ antibodies may also be used as diagnostic agents for detecting the presence of fabZ polypeptides in samples.

Dwg.0/0

L22 ANSWER 17 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-533181 [48] WPIDS
DOC. NO. CPI: C2000-158916
TITLE: Nucleic acids encoding thymidylate kinase family polypeptides derived from Streptococcus pneumoniae, useful for screening for antibacterial agents.

DERWENT CLASS: B04 D16
INVENTOR(S): BISWAS, S; BURNHAM, M K R; CHALKER, A F; INGRAHAM, K A; TRAINI, C M; WARREN, P V; ZALACAIN, M
PATENT ASSIGNEE(S): (BISW-I) BISWAS S; (BURN-I) BURNHAM M K R; (CHAL-I) CHALKER A F; (INGR-I) INGRAHAM K A; (TRAI-I) TRAINI C M; (WARR-I) WARREN P V; (ZALA-I) ZALACAIN M; (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000050602 | A1 | 20000831 | (200048)* | EN | 37 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| US 6270762 | B1 | 20010807 | (200147) | | |
| US 2001027183 | A1 | 20011004 | (200161) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| WO 2000050602 | A1 | | WO 2000-US4238 | 20000218 |
| US 6270762 | B1 | | US 1999-259109 | 19990226 |
| US 2001027183 | A1 | Div ex | US 1999-259109 | 19990226 |
| | | | US 2000-749972 | 20001228 |

PRIORITY APPLN. INFO: US 1999-259109 19990226; US 2000-749972 20001228
AN 2000-533181 [48] WPIDS
AB WO 200050602 A UPAB: 20001102
NOVELTY - Nucleic acids (II) encoding polypeptides (I) of the thymidylate kinase family (tdk polypeptides) derived from Streptococcus pneumoniae, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) an isolated polypeptide (I), comprising:

(a) an isolated amino acid sequence with at least 95% identity to a 210 residue amino acid (aa) sequence given in the specification (A1) over its entire length;

(b) an isolated polypeptide that is or comprises (A1);

(c) a polypeptide encoded by a recombinant polynucleotide comprising a 637 base pair (bp) polynucleotide sequence given in the specification (N1);

(2) an isolated polynucleotide (II), comprising:

(a) an isolated polynucleotide comprising a sequence encoding a polypeptide that has at least 95% identity to the amino acid sequence (A1) over its entire length;

(b) an isolated polynucleotide comprising a sequence that has at least 95% identity over its entire length to a polynucleotide sequence encoding (A1);

(c) an isolated polynucleotide comprising a sequence that has 95% identity to (N1) over its entire length;

(d) an isolated polynucleotide comprising a sequence encoding (A1);

(e) an isolated polynucleotide that is (N1);

(f) an isolated polynucleotide at least 30 nucleotides in

length obtainable by screening an appropriate library under stringent conditions with a probe comprising (N1) or a 30 nucleotide fragment of (N1);

(g) an isolated polynucleotide encoding a mature polypeptide expressed by the tdk gene in Streptococcus pneumoniae; and

(h) a polynucleotide sequence complimentary to (a)-(g);

(3) a **method** (III) for the treatment of a patient:

(a) in need of enhanced activity or expression of or immunological response to (I), comprising administering an antagonist of the polypeptide; or

(b) in need of inhibited expression or activity of (I), comprising:

(i) administering an antagonist to (I);

(ii) administering a nucleic acid molecule that inhibits the expression of a polynucleotide sequence encoding (I);

(iii) administering a polypeptide that competes with (I) for its ligand, substrate or receptor; and/or

(iv) administering a polypeptide that induces an immunological response to (I) in the patient;

(4) a **process** (IV) for diagnosing or prognosing a disease or susceptibility to a disease related to the expression and/or activity of (I) in a patient, comprising:

(a) determining the presence or absence of a mutation in the nucleotide sequence encoding (I) in an organism in the patient; or

(b) analyzing for the presence or amount of polypeptide expression in a sample from the patient;

(5) a **process** (V) for producing (I) comprising culturing a host cell under conditions suitable for production of the polypeptide;

(6) a **process** (VI) for producing a host cell containing an expression system or membrane expressing (I), comprising transforming or transfecting the cell with an expression system comprising a polynucleotide encoding (I), so that when in the host cell and under suitable conditions, the polynucleotide produces (I);

(7) a host cell (VII) or membrane expressing (I);

(8) an antibody (VIII) immunospecific for (I);

(9) a method (IX) of screening to identify compounds that antagonize or inhibit the function of (I), comprising:

(a) measuring the binding of a candidate compound to (I) (or cells and membranes bearing (I)) or a fusion protein of (I) using a label directly or indirectly associated with the candidate compound;

(b) measuring the binding of a candidate compound to (I) (or cells and membranes bearing (I)) or a fusion protein of (I) in the presence of a labeled competitor;

(c) testing whether the candidate compound results in a signal generated by activation or inhibition of (I), using detection systems appropriate to the cells or membranes bearing (I);

(d) mixing a candidate compound with a solution comprising (I) to form a mixture, measuring activity of the peptide in the mixture and comparing the activity of the mixture to a standard; and/or

(e) detecting the effect of a candidate compound on the production of mRNA encoding (I), using for example an ELISA (enzyme linked immunosorbant assay) test; and

(10) an agonist (X) or antagonist (XI) of (I).

ACTIVITY - None given for the tdk peptide per se. However, antagonists of (I) are antimicrobial.

MECHANISM OF ACTION - Thymidylate kinase enzyme.

No biological data given.

USE - The nucleic acids (II) may be used to recombinantly produce the tdk polypeptides either in vivo (e.g. as part of a genetic vaccination procedure) or in vitro (e.g. as part of a fermentation culture) (i.e. (V)). The nucleic acids and proteins may be used to diagnose diseases in which the tdk polypeptides are expressed, such as infection by Streptococcus pneumoniae. For example the nucleic acids may be used as probes to detect complementary sequences in sample and the proteins may be used to produce antibodies against (I) (i.e. (VIII)) for use in ELISA tests to detect and quantify the presence of tdk proteins in samples. The proteins may also be used to screen for agonists (X) and antagonists (XI) of the tdk polypeptides which may be used, respectively, to enhance its activity or to treat Streptococcal infections.

Dwg.0/0

L22 ANSWER 18 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-491237 [43] WPIDS
DOC. NO. CPI: C2000-147692
TITLE: New Streptococcus pneumoniae MurA polynucleotide and MurA polypeptide, useful as diagnostic reagents in the diagnosis of S. pneumoniae infections.
DERWENT CLASS: B04 D16
INVENTOR(S): HUANG, J; JIANG, X; PAYNE, D; VAN HORN, S; WALLIS, N G
PATENT ASSIGNEE(S): (HUAN-I) HUANG J; (JIAN-I) JIANG X; (PAYN-I) PAYNE D; (VHOR-I) VAN HORN S; (WALL-I) WALLIS N G; (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000044779 | A1 | 20000803 | (200043)* | EN | 36 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| US 6346396 | B1 | 20020212 | (200219) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000044779 | A1 | WO 2000-US1307 | 20000120 |
| US 6346396 | B1 | US 1999-240936 | 19990129 |

PRIORITY APPLN. INFO: US 1999-240936 19990129
AN 2000-491237 [43] WPIDS
AB WO 200044779 A UPAB: 20000907

NOVELTY - Streptococcus pneumoniae MurA polynucleotide (1260 nucleotide sequence (I)) and MurA polypeptide (419 amino acid sequence (II)), are new. Both sequences are defined in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polypeptide (P1) selected from:

(a) an isolated polypeptide comprising an amino acid having at least 95 % identity to (II) over its entire length;

(b) an isolated polypeptide comprising the amino acid sequence of (II);

(c) an isolated polypeptide that is (II); or

(d) a polypeptide that is encoded by a recombinant polynucleotide comprising the sequence of (I);

(2) an isolated polynucleotide (N1) selected from:

(a) an isolated polynucleotide comprising a sequence encoding a polypeptide that has at least 95 % identity to the sequence of (II) over the entire length;

(b) an isolated polynucleotide comprising a sequence that has at least 95 % identity over its entire length to a sequence encoding (II);

(c) an isolated polynucleotide comprising a nucleotide sequence that has at least 95% identity to the sequence of (I) over its entire length;

(d) an isolated polynucleotide comprising a nucleotide sequence encoding (II);

(e) an isolated polynucleotide that is (I);

(f) an isolated polynucleotide, of at least 30 nucleotides in length obtainable by screening an appropriate library under stringent hybridization conditions with a probe, 30 nucleotides in length, having the sequence of (I) or its fragment;

(g) an isolated polynucleotide encoding a mature polypeptide expressed by the MurA gene of Streptococcus pneumoniae; or

(h) a polynucleotide sequence complementary to the isolated polynucleotides of (a) to (g);

(3) a **method** for the treatment of an individual:

(a) in need of enhanced activity or expression of or immunological response to P1, comprising administering an effective amount of an antagonist to the polypeptide; or

(b) having need to inhibit activity or expression of P1 comprising:

(a) administering an effective amount of an antagonist to the polypeptide;

(b) administering a nucleic acid molecule that inhibits the expression of a polynucleotide sequence encoding the polypeptide;

(c) administering an effective amount of a polypeptide that competes with P1 for its ligand, substrate, or receptor; or

(d) administering a polypeptide that induces an immunological response to P1;

(4) a **process** for diagnosing or prognosing a disease or a susceptibility to a disease related to expression or activity of P1 in an individual, comprising:

(a) determining the presence or absence of a mutation in the nucleotide sequence encoding the polypeptide; or

(b) analyzing for the presence or amount of the polypeptide expression in a sample derived from the individual;

(5) a **process** for producing a polypeptide, comprising culturing a host cell under conditions sufficient for the production of the polypeptide, where the polypeptide is P1;

(6) a **process** for producing a host cell containing an expression system or its membrane expressing P1, comprising transforming or transfecting the cell with an expression system comprising a polynucleotide encoding P1;

(7) a host cell or a membrane expressing P1;

(8) an antibody immunospecific for P1;

(9) a method for screening to identify compounds that agonize or that inhibit the function of P1, comprising a method selected

from:

(a) measuring the binding of a candidate compound to the polypeptide (or to the cells or membranes bearing the polypeptide) or its fusion protein by means of a label directly or indirectly associated with the candidate compound;

(b) measuring the binding of a candidate compound to the polypeptide (or to the cells or membranes bearing the polypeptide) or its fusion protein in the presence of a labeled competitor;

(c) testing whether the candidate compound results in a signal generated by activation or inhibition of the polypeptide, using detection systems appropriate to the cells or cell membranes bearing the polypeptide;

(d) mixing a candidate compound with a solution comprising P1, to form a mixture, measuring activity of the polypeptide in the mixture, and comparing the activity of the mixture to a standard; or

(e) detecting the effect of a candidate compound on the production of mRNA encoding the polypeptide and the polypeptide in cells, using for instance, an Enzyme linked immunoabsorbant assay (ELISA) assay; and

(10) an agonist or antagonist to P1.

ACTIVITY - Antibacterial; antiinflammatory; antiulcer.

No biological data given.

MECHANISM OF ACTION - MurA antagonist and agonist.

USE - The MurA polynucleotide and polypeptide are useful as diagnostic reagents in the diagnosis of bacterial infections, preferably S. pneumoniae infections.

The agonists and antagonists of the MurA polypeptide are useful in the treatment of Helicobacter pylori infection, gastric ulcers and gastritis.

Dwg.0/0

L22 ANSWER 19 OF 49 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2000-425477 [37] WPIDS

DOC. NO. CPI: C2000-129085

TITLE: Streptococcus pneumoniae polynucleotide and **polypeptide** sequences, useful to **inhibit** and **treat** bacterial **infections**, particularly **S. pneumoniae infections**.

DERWENT CLASS: B04 D16

INVENTOR(S): ALTIERI, M; DOMENICI, E; FAGGIONI, F; FERRARI, L; MOTTI, H; PICCOLI, L; POLISSI, A; PONTIGGIA, A; RATTI, E; SIMON, D

PATENT ASSIGNEE(S): (GLAX) GLAXO GROUP LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| GB 2345288 | A | 20000705 | (200037)* | | 55 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| GB 2345288 | A | GB 1998-21362 | 19981002 |

PRIORITY APPLN. INFO: GB 1998-21362 19981002
AN 2000-425477 [37] WPIDS
AB GB 2345288 A UPAB: 20000807
NOVELTY - An isolated polynucleotide comprising a polynucleotide encoding the 1153, 737, 230, or 248 residue Streptococcus pneumoniae amino acid sequences given in the specification, is new.

DETAILED DESCRIPTION - An isolated polynucleotide comprises:

(a) a polynucleotide encoding a polypeptide having at least 70% identity to the 1153, 737, 230, or 248 residue amino acid sequences given in the specification;

(b) a polynucleotide which is complementary to the polynucleotide of (a); and

(c) a polynucleotide comprising at least 15 sequential bases of the polynucleotide of (a) or (b).

INDEPENDENT CLAIMS are also included for the following:

(1) a vector comprising the above DNA;

(2) a host cell comprising the vector of (1);

(3) producing a polypeptide, comprising, expressing from the host cell of (2) a polypeptide encoded by the DNA;

(4) producing a cell which expresses a polypeptide comprising transforming or transfecting the cell with the vector of (1) such that the cell expresses the polypeptide encoded by the DNA contained in the vector;

(5) a polypeptide comprising an amino acid sequence which is at least 70% identical to, or is the 1153, 737, 230, or 248 residue amino acid sequences;

(6) an antibody against the polypeptide of (5);

(7) an antagonist which inhibits the activity of the polypeptide of (5);

(8) treatment of an individual having need to inhibit the activity of the polypeptide of (6), comprising administering to the individual a therapeutically effective amount of the antagonist of (7);

(9) a complex of a polypeptide and a binding molecule which comprises the polypeptide of (5) and a binding molecule that is capable of antagonizing the activity of the polypeptide;

(10) diagnosing a disease related to expression of the polypeptide of (5) comprising determining a nucleic acid sequence encoding the polypeptide;

(11) a diagnostic **process** comprising analyzing for the presence of the polypeptide of (5) in a sample derived from a host;

(12) identifying compounds which inhibit the activity of the polypeptide of (5) comprising contacting a cell expressing the polypeptide on its surface with a compound under conditions to permit binding of the polypeptide in the presence of a component capable of providing a detectable signal in response to the binding of the compound to the polypeptide; and determining whether the compound inhibits the binding by detecting the presence of absence of a signal generated from the interaction of the compound with the binding;

(13) inducing an immunological response in a mammal which comprises inoculating the mammal with the polypeptide of (5) or a fragment or variant of it adequate to protect the animal against infection from S. pneumoniae; and

(14) inducing an immunological response in a mammal comprising delivering a gene encoding the polypeptide of (5) or a fragment or variant of it, and obtaining expression of the gene in vivo in order

to induce an immunological response to produce antibody to protect the animal against infection from S. pneumoniae.

ACTIVITY - Immunostimulant; Antibacterial.

MECHANISM OF ACTION - None given.

USE - The DNA sequence can be used in a vector used to transfect a host cell to produce the **polypeptide**. The **antagonist** can be administered to **treat** an individual in need of **inhibition** of the **polypeptide**. The gene and **polypeptide** can be used to induce an immunological response in a mammal to protect the animal against **infection** from **S. pneumoniae** (all claimed). The sequences and antibodies can also be used to **inhibit** and/or **treat** bacterial **infections** as well as **S. pneumoniae infections**.

Dwg.0/0

L22 ANSWER 20 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-387560 [33] WPIDS
DOC. NO. NON-CPI: N2000-290184
DOC. NO. CPI: C2000-117586
TITLE: New DnaB polypeptide from Streptococcus pneumoniae, useful, e.g. in vaccines, for diagnosis of infections, and for identifying antibacterial agents.
DERWENT CLASS: B04 D16 T01
INVENTOR(S): CHALKER, A F; HOLMES, D J; INGRAHAM, K A; JAWORSKI, D D; LENOX, A L; MAY, E W; MAZZULLA, M J; RAY, J; WANG, M; WARREN, R L; LENNOX, A L; MAZZULLA, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000028820 | A1 | 20000525 | (200033)* | EN | 59 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| US 6204014 | B1 | 20010320 | (200118) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000028820 | A1 | WO 1999-US26893 | 19991111 |
| US 6204014 | B1 | US 1998-191879 | 19981113 |

PRIORITY APPLN. INFO: US 1998-191879 19981113
AN 2000-387560 [33] WPIDS
AB WO 200028820 A UPAB: 20000712
NOVELTY - Isolated DnaB polypeptide (I) that is at least 70% identical with a 450 residue amino acid sequence, fully defined in the specification, over the entire length of it, comprises, or is, the 450 residue sequence, or is encoded by a recombinant polynucleotide comprising a 1953 base pair sequence, fully defined in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for

the following:

(1) polynucleotide (II) that

(a) encodes the sequence, at least 70% identical to the 450 residue sequence;

(b) is at least 70% identical with a sequence encoding the 450 residue sequence;

(c) is at least 70% identical with the 1953 base pair sequence over the entire 301-1651 nucleotide (nt) segment of it;

(d) encodes the 450 residue sequence;

(e) is the 301-1651 nt segment of the 1953 base pair sequence;

(f) is isolated by screening a library, under stringent conditions, with the 1953 base pair sequence, or a fragment of it;

(g) encodes a mature polypeptide expressed by the DnaB gene of Streptococcus pneumoniae; or

(h) is a complement of (a)-(g);

(2) antibody (Ab) immunospecific for (I);

(3) diagnosis or prognosis of disease, or susceptibility, related to expression or activity of (I), comprising determining the presence or absence of a mutation in the nucleotide sequence encoding the polypeptide in the genome of the individual, and analyzing for the presence or amount of the polypeptide expression in a sample derived from the individual;

(4) screening **methods** for identifying compounds (A) that activate or inhibit function of (I), comprising:

(a) measuring the binding of a candidate compound to the polypeptide, or to cells or membranes bearing the polypeptide or a fusion protein of it, using a label directly or indirectly associated with the candidate compound;

(b) measuring the binding of a candidate compound to the polypeptide or to the cells or membranes bearing the polypeptide or a fusion protein of it, in the presence of a labeled competitor;

(c) testing if the candidate compound results in a signal generated by activation or inhibition of the polypeptide;

(d) mixing a candidate compound with a solution containing (I), measuring the activity of the polypeptide, and comparing it to a standard;

(e) detecting the effect of a candidate compound on the production of mRNA encoding the polypeptide, and the polypeptide in cells, using e.g. enzyme linked immunosorbant assay (ELISA); or

(f) contacting a composition comprising the polypeptide with the compound to be screened to assess the interaction, the interaction being associated with a second component capable of providing a detectable signal in response to the interaction of the polypeptide and compound, and determining if interaction occurs;

(5) agonists and antagonists of the expression or activity of (I);

(6) expression system comprising (II), present in a host cell;

(7) host cell, or its membrane, that contains the system of (6) and expresses (I);

(8) production of (I) by culturing cells of (7);

(9) production of cells of (7), or its membranes, by transformation or transfection;

(10) computer-readable medium containing at least the 450 residue sequence and/or the 1953 base pair sequence;

(11) computer-based **method** of homology identification, based on the 1953 base pair sequence;

(12) computer-based **method** of polynucleotide assembly based on identification of an overlap between the 1953 base pair

sequence, and a second nucleic acid sequence; and
(13) polynucleotides of formula (IIa) X-(R1)m-R2-(R3)m-Y (IIa)

X and Y = hydrogen, metal, modified nucleotide or together form a covalent bond;
each R1 and R3 = optionally modified nucleotide;
m and n = 0-3000;
R2 = optionally modified 1953 base pair sequence.
ACTIVITY - Antibacterial.
MECHANISM OF ACTION - Inhibition of DnaB, probably a replicative helicase, which is essential for growth and/or survival of S. pneumoniae.
USE - The 450 residue polypeptide, the product of the DnaB gene of Streptococcus pneumoniae, is used to screen for specific agonists and antagonists, potential therapeutic agents, to raise specific antibodies (Ab), in vaccines, and in rational drug design. Ab are useful as diagnostic immunoassay reagents and as therapeutic antagonists. Nucleic acids (II) that encode (I), or fragments, are used for recombinant production of (I), and as probes and primers to isolate homologous full-length or genomic clones, for diagnosis, prognosis, staging and typing infections, including detection of genomic mutations, and for chromosome identification or mapping. (II) can also be used in genetic immunization, and as antisense inhibitors. The therapeutic agents have bacteriostatic/bactericidal activity and are used to treat or prevent infections, especially those caused by S. pneumoniae, but also Helicobacter pylori infections and associated disorders, also for treatment of in-dwelling devices and wounds to prevent bacterial adhesion.
Dwg.0/0

L22 ANSWER 21 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-318449 [28] WPIDS
DOC. NO. NON-CPI: N2000-238930
DOC. NO. CPI: C2000-096569
TITLE: New MurF polypeptide from Streptococcus pneumoniae, useful e.g. in vaccines, for production of diagnostic antibodies and in screening for antibacterial agents.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): WALLIS, N G
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC; (WALL-I) WALLIS N G
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| CA 2244954 | A1 | 19990325 | (200028)* | EN | 64 |
| JP 11225780 | A | 19990824 | (200028) | | 35 |
| EP 1038962 | A1 | 20000927 | (200053)# | EN | |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| US 6194170 | B1 | 20010227 | (200114) | | |
| US 2001016334 | A1 | 20010823 | (200151) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| CA 2244954 | A1 | | CA 1998-2244954 | 19980924 |
| JP 11225780 | A | | JP 1998-309359 | 19980925 |
| EP 1038962 | A1 | | EP 1999-301987 | 19990315 |
| US 6194170 | B1 | Provisional | US 1997-60011P | 19970925 |
| | | | US 1998-143954 | 19980831 |
| US 2001016334 | A1 | Provisional | US 1997-60011P | 19970925 |
| | | Div ex | US 1998-143954 | 19980831 |
| | | | US 2001-754446 | 20010104 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| US 2001016334 | A1 | Div ex | US 6194170 |

PRIORITY APPLN. INFO: US 1997-60011P 19970925; EP 1999-301987 19990315; US 1998-143954 19980831; US 2001-754446 20010104

AN 2000-318449 [28] WPIDS

AB CA 2244954 A UPAB: 20000613

NOVELTY - New MurF polypeptide from Streptococcus pneumoniae.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) isolated polypeptide (I) comprising a sequence at least 70% identical with a 457 amino acid (aa) sequence (S2), defined in the specification, over its entire length;

(2) isolated polynucleotide (II) that:

(i) encodes (I);

(ii) has at least 70% identity with (i) over the entire coding region;

(iii) has at least 70% identity with a sequence of 1702 bp (S1), defined in the specification, over its entire length;

(iv) is produced by screening a library under stringent conditions with a labeled probe comprising at least part of (S1); and

(v) is the complement of (i)-(iv);

(3) expression system, present in a host cell, containing a polynucleotide that expresses (I);

(4) host cell, or its membrane, containing the system of (3);

(5) production of (I) by culturing cells of (4);

(6) antibody (Ab) immunospecific for (I);

(7) **method** for identifying compounds (A) that stimulate or inhibit activity of (I);

(8) agonists and antagonists of (I);

(9) **method** for diagnosing disease (or susceptibility) associated with expression of (I);

(10) isolated polynucleotide (IIa) with at least 70% identity with a sequence of 1676 bp (S3), defined in the specification, over its entire length and able to encode a polypeptide (Ia) with at least 70% identity with a 448 aa sequence (S4), defined in the specification, over its entire length; and

(11) polypeptide (Ia) with at least 70% identity with (S4) or encoded by (S3).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

(I) is the UDP-N-acetylmuramoyl-L-Alanyl-D-Glutamyl-L-Lysine:D-Alanyl-D-Alanine ligase of Streptococcus pneumoniae involved in

peptidoglycan biosynthesis and is probably essential for bacterial survival.

USE - (I), the MurF **polypeptide** of Streptococcus pneumoniae, is used to screen for agents (agonists and **antagonists**) useful for **treating** (I)-related diseases, particularly bacterial **infection**, especially by **S. pneumoniae**, but also by Helicobacter pylori. (I), or its fragments, are also used in vaccines and to raise specific antibodies (Ab). Ab are used for diagnostic detection of (I) in immunoassays, to identify (I)-expressing clones, for affinity purification and as **therapeutic** agents against infection, including **treatment** of in-dwelling devices such as catheters and wounds to **inhibit** bacterial adhesion.

Detection of (I), or the nucleic acid (II) encoding it, is used for diagnosing and staging disease and to monitor response to treatments. (II) is also used for recombinant production of (I) while its fragments are used as probes for detecting mutations, for identification, classification and chromosome detection, in usual hybridization or amplification assays. (II) may also be used in gene vaccines and its antisense or triplex-forming sequences are used therapeutically.

Dwg.0/0

L22 ANSWER 22 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-303799 [26] WPIDS
DOC. NO. NON-CPI: N2000-226936
DOC. NO. CPI: C2000-092318
TITLE: **Methods** for identifying an antibacterial agent for treating Streptococcus pneumoniae infections comprises detecting an interaction between a yneS polypeptide and a test compound.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): FRITZ, C; GUZMAN, L; YOUNGMAN, P
PATENT ASSIGNEE(S): (MILL-N) MILLENNIUM PHARM INC
COUNTRY COUNT: 87
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000020627 | A1 | 20000413 | (200026)* | EN | 65 |

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZW

| | | | | | |
|---|---|---|---|---|---|
| AU 9962772 | A | 20000426 | (200036) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000020627 | A1 | WO 1999-US22665 | 19990930 |
| AU 9962772 | A | AU 1999-62772 | 19990930 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|

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AU 9962772 A Based on WO 200020627

PRIORITY APPLN. INFO: US 1998-163445 19980930
AN 2000-303799 [26] WPIDS
AB WO 200020627 A UPAB: 20000531
NOVELTY - Identifying an antibacterial agent comprises contacting a yneS polypeptide from Streptococcus pneumoniae (S-yneS) with a test compound and detecting an interaction of the test compound with the S-yneS polypeptide which indicates that the compound is an antibacterial agent.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a **method** for identifying an antibacterial agent comprising contacting a S-yneS polypeptide with a test compound and detecting a decrease in function of the polypeptide contacted with the test compound and determining whether the compound inhibits growth of bacteria, relative to the growth of bacteria cultured in the absence of a test compound where inhibition of growth indicates the compound is an antibacterial agent;

(2) a **method** for identifying an antibacterial agent comprising contacting a nucleic acid encoding S-yneS with a test compound and detecting an interaction of the test compound with the nucleic acid, where an interaction indicates the test compound is an antibacterial agent;

(3) use of an **inhibitor** of the function of an S-yneS **polypeptide** in the preparation of a **medicament** for **treating** a **Streptococcus pneumoniae infection** in a mammal; and

(4) use of a bacterial agent identified by the above **methods** in the preparation of a **medicament** for treating a Streptococcus pneumoniae infection in an organism.

ACTIVITY - Antibacterial.
No biological data is given.
MECHANISM OF ACTION - Inhibitor of yneS activity or transcription of a yneS gene or translation of mRNA transcribed from the yneS gene.

USE - The **methods** are used for identifying antibacterial agents which can be used to prepare compositions and formulations for treating Streptococcus pneumoniae infections in organisms, particularly in mammals e.g. human or rodent (claimed).

ADVANTAGE - yneS is an essential gene for survival of gram negative bacteria making it an ideal candidate for assays detecting antibacterial agents with a broad spectrum of antibacterial activity.

The assays are suitable for high throughput screening of candidate antibacterial agents.
Dwg.0/4

L22 ANSWER 23 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-271412 [23] WPIDS
DOC. NO. CPI: C2000-082904
TITLE: Streptococcus pneumoniae topA polynucleotides and polypeptides, useful as vaccines for treating S. pneumoniae infection.
DERWENT CLASS: B04 D16
INVENTOR(S): GWYNN, M; KALLENDER, H; KATZ, L; SYLVESTER, D; TRAINI, C M; WARREN, R L; KATZ, L K

PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM; (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 21
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000015769 | A1 | 20000323 | (200023)* | EN | 60 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| EP 1114145 | A1 | 20010711 | (200140) | EN | |
| R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE | | | | | |
| US 6331411 | B1 | 20011218 | (200205) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000015769 | A1 | WO 1999-US20296 | 19990902 |
| EP 1114145 | A1 | EP 1999-951401 | 19990902 |
| | | WO 1999-US20296 | 19990902 |
| US 6331411 | B1 CIP of | US 1997-949637 | 19971014 |
| | | US 1998-153277 | 19980915 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| EP 1114145 | A1 Based on | WO 200015769 |
| US 6331411 | B1 CIP of | US 5910414 |

PRIORITY APPLN. INFO: US 1998-153277 19980915; US 1997-949637 19971014
AN 2000-271412 [23] WPIDS
AB WO 200015769 A UPAB: 20000516
NOVELTY - A 2183 base pair (bp) Streptococcus pneumoniae topA polynucleotide (I) (sequence defined and given in the specification), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a polypeptide (Ia) comprising a defined 695 amino acid sequence (given in the specification) encoded by (I);

(2) a defined 1524 bp polynucleotide (II) (given in the specification) comprising the S. pneumoniae open reading frame (ORF);

(3) a polypeptide (IIa) comprising a defined 507 amino acid sequence (given in the specification) encoded by (II);

(4) polynucleotides and polypeptides with at least 70% identity to (I) or (II) and fragments or variants of (I) or (II);

(5) an antibody to (Ia) or (IIa);

(6) a **method** for the treatment of an individual requiring enhanced or reduced expression of (Ia) or (IIa) comprising administering (I) or (II) (for enhanced expression) or an antagonist to (Ia) or (IIa) (reduced expression);

(7) a **method** for diagnosing a disease or susceptibility to a disease related to expression or activity of (Ia) or (IIa) comprising:

(a) determining the presence or absence of a mutation in (I) or

(II); or
(b) analyzing the presence and or quantity of (Ia) or (IIa) in a sample;
(8) a **method** for screening to identify compounds that activate or inhibit the function of (Ia) or (IIa) comprising:
(a) measuring the binding of a candidate compound to (Ia) or (IIa) using a label directly associated with the candidate compound;
(b) measuring the binding of a candidate compound to (Ia) or (IIa) in the presence of a labeled competitor;
(c) testing whether the candidate compound results in a signal generated by activation or inhibition of the polypeptide; or
(d) detecting the effect of a candidate compound on the production of mRNA encoding (Ia) or (IIa);
(9) an agonist or antagonist of (Ia) or (IIa);
(10) an expression system comprising (I) or (II);
(11) a host cell comprising the expression system of (10);
(12) a **process** for producing (Ia) or (IIa) comprising culturing the cell of (11);
(13) a computer readable medium comprising (I), (Ia), (II) and/or (IIa);
(14) a computer based **method** for performing homology identification comprising providing (I) and/or (II) in a computer readable medium; and
(15) a computer based **method** for polynucleotide assembly comprising providing (I) and/or (II) in a computer readable medium and screening for at least 1 overlapping region between polynucleotides.
ACTIVITY - Antibacterial.
No biological data given.
MECHANISM OF ACTION - Vaccine.
USE - (I), (Ia), (II), (IIa), and agonists or **antagonists** to them, are useful for detecting and/or **treating** diseases associated with altered levels of topA **polypeptides** and as vaccines for raising an immune response against **S. pneumoniae infection**. The polynucleotides and **polypeptides** may also be used in the discovery and development of antibacterial compounds.
Dwg.0/0

L22 ANSWER 24 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-256579 [22] WPIDS
DOC. NO. CPI: C2000-078250
TITLE: Streptococcus pneumoniae ratC polypeptide and polynucleotide useful for treating bacterial infections, especially meningitis and pneumonia.
DERWENT CLASS: B04 D16
INVENTOR(S): KALLENDER, H
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000012531 | A1 | 20000309 | (200022)* | EN | 60 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| EP 1107977 | A1 | 20010620 | (200135) | EN | |
| R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE | | | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000012531 | A1 | WO 1999-US18701 | 19990817 |
| EP 1107977 | A1 | EP 1999-941199 | 19990817 |
| | | WO 1999-US18701 | 19990817 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| EP 1107977 | A1 | Based on | WO 200012531 |

PRIORITY APPLN. INFO: US 1998-140580 19980827
AN 2000-256579 [22] WPIDS
AB WO 200012531 A UPAB: 20000508
NOVELTY - An isolated polypeptide (I) comprising a sequence with at least 95% identity to the 100 amino acid sequence, fully defined in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide (II), encoding comprising a sequence with at least 95% identity to a 303 base pair sequence encoding the 100 amino acid sequence given in the specification;

(2) an antisense sequence (III) to (II);

(3) an antibody antigenic to or immunospecific for (I);

(4) an agonist or antagonist of (I);

(5) an expression system (IV) comprising (II);

(6) a host cell (V) comprising (IV) or a membrane of (IV) expressing (I);

(7) producing (I);

(8) producing (V); and

(9) a computer readable medium (VI) having stored on it a member selected from (I), (II), a set of (I) or (II) or a data set representing (I) or (II).

ACTIVITY - Antibacterial; opthalmological; antiinflammatory; auditory.

MECHANISM OF ACTION - Gene therapy; vaccine.

USE - (I) may be used to screen for its agonists and **antagonists** by contacting (I) with the candidate compound and detecting any alteration in activity of (I) or in a label attached to the candidate. Alternatively, the effect of a candidate compound on the production of mRNA encoding (I) may be detected using an ELISA (Enzyme Linked Immunosorbant Assay) assay (both claimed). Agonists of (I) may be administered to patients to **treat** conditions associated with increased expression or activity of (I). Agonists of (I) may similarly be used to **treat** conditions associated with decreased expression or activity of (I) (both claimed). Diseases or conditions arising from altered expression or activity of (I) may be diagnosed by detecting (I) in a sample from a patient or detecting a mutation in (II) in the genome of the patient (claimed). These diseases or conditions include bacterial **infections**, especially **Streptococcus pneumoniae infections**, and Helicobacter pylori **infections**, otitis media, conjunctivitis, pneumonia, bacteremia, meningitis, sinusitis,

pleural empyema and endocarditis. (VI) may be used in a computer based **method** for performing homology identification, comprising providing (II) in (VI) and comparing the polynucleotide sequence to at least one polynucleotide or **polypeptide** sequence to identify homology (claimed). (II) and (VI) are also used in a computer base **method** for polynucleotide assembly, comprising providing (II) in (VI) and screening for at least one overlapping region between a the first and a second polynucleotide sequence (claimed).
Dwg.0/0

L22 ANSWER 25 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-195301 [17] WPIDS
DOC. NO. NON-CPI: N2000-144461
DOC. NO. CPI: C2000-060591
TITLE: Streptococcal proteins and polynucleotides useful for diagnosis, treatment and prophylaxis of bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): HANNIFFY, S B; HANSBRO, P M; LE PAGE, R W F; WELLS, J M
PATENT ASSIGNEE(S): (MICR-N) MICROBIAL TECHNICS LTD
COUNTRY COUNT: 22
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000006738 | A2 | 20000210 | (200017)* | EN | 76 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: CN JP US | | | | | |
| EP 1144640 | A2 | 20011017 | (200169) | EN | |
| R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE | | | | | |
| CN 1318103 | A | 20011017 | (200213) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000006738 | A2 | WO 1999-GB2452 | 19990727 |
| EP 1144640 | A2 | EP 1999-934990 | 19990727 |
| | | WO 1999-GB2452 | 19990727 |
| CN 1318103 | A | CN 1999-810978 | 19990727 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| EP 1144640 | A2 | Based on | WO 200006738 |

PRIORITY APPLN. INFO: US 1999-125329P 19990319; GB 1998-16336 19980727
AN 2000-195301 [17] WPIDS
AB WO 200006738 A UPAB: 20000405
NOVELTY - Streptococcus pneumoniae protein or polypeptide (I), its homologs or derivatives, with a fully defined sequence amino acids (given in the specification), is new.
DETAILED DESCRIPTION - (I) has an amino acid sequence selected from 12 sequences given in the specification.

INDEPENDENT CLAIMS are also included for the following:

(1) a protein or polypeptide (II), its homologs or derivatives having a defined amino acid sequence selected from 61 sequences given in the specification;

(2) an antigenic and/or immunogenic fragment of (I), (II) or a protein or polypeptide (III) having a sequence selected from 12 sequences of defined amino acids given in the specification;

(3) a nucleic acid molecule (IV) encoding (I), (II) or (III) having defined DNA sequences given in the specification (or their RNA equivalents, complementary sequences, homologs, derivatives or identical sequences);

(4) an immunogenic and/or antigenic composition (V) comprising (I), (II) or (III) or homologs, derivatives and/or fragments;

(5) a vaccine composition comprising (III);

(6) an antibody (VI) capable of binding to (I), (II), (III) or a homolog, derivative or fragment; and

(7) determining the anti-microbial activity of (I) (II) and (III) by inactivating the protein and determining the viability of S.pneumoniae.

ACTIVITY - Antiinflammatory; antibacterial.

MECHANISM OF ACTION - Vaccine; antagonist.

100 micro g of recombinant pcDNA3.1 (IV) was injected intramuscularly into the tibialis anterior muscle of both legs of mice. A booster dose was given 4 weeks later and control groups received either non-recombinant pcDNA3.1+DNA or no vaccine. After the second immunization, all mice groups were challenged intra-nasally with a lethal doses of Streptococcus pneumoniae serotype 4 (strain NCTC 11886). Mice were monitored for the development of symptoms associated with the onset of S.pneumoniae induced-disease. The groups vaccinated with DNA survived significantly longer than non-vaccinated controls.

USE - (I) or homologs, derivatives and/or fragments are useful as an immunogen or antigen and (V) is useful as a vaccine and also in a diagnostic assay. (I-V) are useful for detection or diagnosis of S. pneumoniae, by contacting a sample to be tested with them. Agents capable of **antagonizing**, **inhibiting** or **interfering** with the function or expression of the **protein** or **polypeptide** (II) are useful in medical compositions in the **treatment** or **prophylaxis** of **S.pneumoniae infection** (claimed).

Dwg.0/2

L22 ANSWER 26 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-072185 [06] WPIDS
DOC. NO. CPI: C2000-020554
TITLE: Novel Streptococcal gcp polynucleotides and polypeptides useful for screening for antibacterial compounds.
DERWENT CLASS: B04 D16
INVENTOR(S): BISWAS, S; CHALKER, A F; HOLMES, D J; INGRAHAM, K A; PALMER, L M; RAY, J E; WARREN, R L; ZALACAIN, M; HOLMES, D
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 21
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|

WO 9955900 A2 19991104 (200006)* EN 63
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: JP
EP 1073669 A2 20010207 (200109) EN
R: BE CH DE DK FR GB IT LI NL
US 6274719 B1 20010814 (200148)
JP 2002512809 W 20020508 (200234) 82

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 9955900 | A2 | WO 1999-US8770 | 19990422 |
| EP 1073669 | A2 | EP 1999-919951 | 19990422 |
| | | WO 1999-US8770 | 19990422 |
| US 6274719 | B1 | US 1998-66512 | 19980424 |
| JP 2002512809 | W | WO 1999-US8770 | 19990422 |
| | | JP 2000-546043 | 19990422 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| EP 1073669 | A2 | Based on | WO 9955900 |
| JP 2002512809 | W | Based on | WO 9955900 |

PRIORITY APPLN. INFO: US 1998-66512 19980424
AN 2000-072185 [06] WPIDS
AB WO 9955900 A UPAB: 20000203
NOVELTY - Novel gcp polynucleotides and polypeptides are disclosed. They are isolated from Streptococcus pneumoniae.

DETAILED DESCRIPTION - An isolated gcp polypeptide (I) is new, and comprises the 336 amino acid sequence (A) given in the specification, or has at least 70 (especially 95) % identity to, and over the entire length of (A).

INDEPENDENT CLAIMS are also included for:

(1) an isolated gcp polynucleotide (II) selected from:

(a) an isolated polynucleotide encoding (I);

(b) an isolated polynucleotide that has at least 70 (especially 95) % identity to, and over the entire length of, the polynucleotide of (a);

(c) an isolated polynucleotide that has at least 70 (especially 95) % identity 1011 bp sequence (B) given in the specification;

(d) an isolated polynucleotide encoding (A);

(e) an isolated polynucleotide that comprises (B);

(f) an isolated polynucleotide obtainable by screening an appropriate library under stringent hybridization conditions with a probe comprising (B) or a fragment;

(g) an isolated polynucleotide encoding a mature polypeptide expressed by the gcp gene of S. pneumoniae; and

(h) a polynucleotide sequence complementary to the polynucleotides of (a) to (g);

(2) an antibody antigenic to or immunospecific for (I);

(3) a **method** for the treatment of an individual in need of enhanced activity or expression of (I);

(4) a **method** for the treatment of an individual having need to inhibit activity or expression of (I);

(5) a **process** for diagnosing or prognosis a disease

or a susceptibility to a disease in an individual related to expression or activity of (I);

(6) a **method** for screening to identify compounds that activate or that inhibit the function of (I), comprising a **method** selected from:

(i) measuring the binding of a candidate compound to (I) or to the cells or membranes bearing (I) or a fusion protein thereof by means of a label directly or indirectly associated with the candidate compound;

(ii) measuring the binding of a candidate compound to (I) or to the cells or membranes bearing (I) or a fusion protein thereof in the presence of a labeled competitor;

(iii) testing whether the candidate compound results in a signal generated by activation or inhibition of the polypeptide using detection systems appropriate to the cells or cell membranes bearing (I);

(iv) mixing a candidate compound with a solution containing (I), to form a mixture measuring activity of the polypeptide in the mixture, and comparing the activity of the mixture to a standard;

(v) detecting the effect of a candidate compound on the production of mRNA encoding (I), using e.g. an ELISA assay; or

(vi) contacting a composition comprising (I) with the compound to be screened under conditions permitting interaction between the compound and the polypeptide to assess the interaction of a compound, such interaction being associated with a second component capable of providing a detectable signal in response to the interaction of the polypeptide with the compound; and determining whether the compound interacts with and activates or inhibits an activity of (I) by detecting the presence or absence of a signal generated from the interaction of the compound with (I);

(7) an agonist or an antagonist of the activity or expression of (I);

(8) an expression system comprising a polynucleotide capable of producing (I) when said expression system is present in a compatible host cell;

(9) a host cell comprising the expression system of (8) or a membrane thereof expressing (I);

(10) a **process** for producing (I) comprising the step of culturing a host cell of (9) under conditions sufficient for the production of said polypeptide;

(11) a **process** for producing a host cell comprising the expression system of (8), comprising transforming or transfecting a cell with an expression system such that the host cell, under appropriate culture conditions, produces (I);

(12) a host cell produced by the **process** of (11) or a membrane thereof expressing (I);

(13) a computer readable medium having stored thereon a member selected from the group consisting of:

(a) a polynucleotide comprising (B);

(b) a polypeptide comprising (A);

(c) a set of polynucleotide sequences wherein at least one of the sequences is (B);

(d) a set of polypeptide sequences wherein at least one of the sequences comprises (A);

(e) a data set representing a polynucleotide sequence comprising the (B);

(f) a data set representing a polynucleotide sequence encoding a polypeptide sequence comprising (A);

(14) a computer based method for performing homology identification, comprising providing a polynucleotide sequence comprising (B) in a computer readable medium, and comparing the polynucleotide sequence to at least one polynucleotide or polypeptide sequence to identify homology.

ACTIVITY - Glycopeptidase.

MECHANISM OF ACTION - None given.

USE - GCP polypeptides and polynucleotides are useful for diagnosing diseases due to an infection of an organism with the GCP gene (claimed). They can diagnose the stage and type of infection. GCP polypeptides are also useful for screening for compounds which affect activity of the protein (claimed). These can be used in treatment to inhibit (antagonist i.e. antibacterial drugs) or enhance (agonist) GCP activity, in addition to direct administration of GCP polypeptides to treat conditions associated with a lack of GCP polypeptide (claimed), or direct administration of antisense sequences to prevent expression. GCP polypeptides (administered directly, in a vector i.e. gene therapy, and as a vaccine) and antibodies induce an immune response to immunize and prevent disease. Anti-GCP antibodies induced by the polypeptide are also useful for isolating clones expressing GCP (I), or for purifying the polypeptide by affinity chromatography. Diseases diagnosed, prevented or treated include otitis media, conjunctivitis, pneumonia, bacteremia, sinusitis, pleural empyema, endocarditis and especially meningitis. GCP polypeptides, polynucleotides and their (ant)agonists can to prevent adhesion of bacteria to matrix proteins, and are useful for use on wounds and body implants to prevent bacterial infection

ADVANTAGE - The frequency of Streptococcal infections has risen dramatically, and it is no longer common to isolate Streptococcus pneumoniae strains that are resistant to standard antibiotics. The gcp products of the invention can be used screen for new antibacterial compounds that may target these resistant bacteria.

Dwg.0/0

L22 ANSWER 27 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-062670 [05] WPIDS
DOC. NO. CPI: C2000-017457
TITLE: New isolated priA polypeptides, useful for screening antibacterial compounds.
DERWENT CLASS: B04 D16
INVENTOR(S): MCDEVITT, D; SHILLING, L K; ST JOHN, A; WARREN, R L; SHILLING, L
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 21
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 9961453 | A2 | 19991202 | (200005)* | EN | 68 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP | | | | | |
| US 6146846 | A | 20001114 | (200060) | | |
| EP 1077983 | A2 | 20010228 | (200113) | EN | |
| R: BE CH DE DK FR GB IT LI NL | | | | | |
| JP 2002516333 W | | 20020604 | (200239) | | 90 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 9961453 | A2 | WO 1999-US8771 | 19990422 |
| US 6146846 | A | US 1998-67091 | 19980427 |
| EP 1077983 | A2 | EP 1999-946573 | 19990422 |
| | | WO 1999-US8771 | 19990422 |
| JP 2002516333 | W | WO 1999-US8771 | 19990422 |
| | | JP 2000-550857 | 19990422 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| EP 1077983 | A2 | Based on | WO 9961453 |
| JP 2002516333 | W | Based on | WO 9961453 |

PRIORITY APPLN. INFO: US 1998-67091 19980427
AN 2000-062670 [05] WPIDS
AB WO 9961453 A UPAB: 20000128
NOVELTY - An isolated priA polypeptide (I) is new.
DETAILED DESCRIPTION - (I) comprises:
(a) an amino acid comprising at least 70-95% identity to an 804 amino acid sequence (A) fully defined in the specification;
(b) an isolated polypeptide comprising (A);
(c) an isolated polypeptide which is (A); or
(d) a polypeptide which is encoded by a recombinant polynucleotide (PN) comprising the PN (A).
INDEPENDENT CLAIMS are also included for the following:
(1) an isolated PN (II) sequence encoding (I);
(2) an antibody (III) antigenic to or immunospecific to (I);
(3) treatment of an individual:
(a) in need of enhanced activity or expression of (I) comprising:
(i) administering an agonist to (I); or
(ii) providing an isolated PN comprising a sequence encoding the polypeptide in a form so as to effect production of the polypeptide activity in vivo; or
(b) having need to inhibit activity or expression of (I) comprising:
(i) administering an antagonist to (I); or
(ii) administering a nucleic acid molecule that inhibits the expression of a PN sequence encoding (I); or
(iii) administering a polypeptide that competes with (I) for its ligand, substrate or receptor;
(4) diagnosing or prognosing a disease or a susceptibility to a disease in an individual related to expression or activity of (I) by:
(a) determining the presence or absence of a mutation in the nucleotide sequence encoding (I) in the genome; or
(b) analyzing for the presence or amount of (I) expression in a sample derived from the individual;
(5) screening to identify compounds that activate or inhibit the function of (I) by:
(a) measuring the binding of a candidate compound to (I) or to the cells or membranes bearing (I) or a fusion protein by means of a label(in)directly associated with the compound;
(b) measuring the binding of a candidate compound to (I) or to

the cells or membranes bearing (I) or a fusion protein in the presence of a labeled competitor;

(c) testing whether the candidate compound results in a signal generated by activation or inhibition of the polypeptide using detection systems appropriate to the cells or cell membranes bearing (I);

(d) mixing a candidate compound with a solution containing (I) to form a mixture measuring the activity of (I) in the mixture and comparing the activity of the mixture to a standard;

(e) detecting the effect of a candidate compound on the production of mRNA encoding the polypeptide and the polypeptide in cells using for instance an ELISA assay, or

(f) contacting a composition comprising (I) with the compound to be screened to permit interaction between the compound and the polypeptide to assess the interaction of a compound which is associated with a second component capable of providing a detectable signal in response to the interaction of the polypeptide with the compound and determining whether the compound interacts with and activates or inhibits an activity of (I) by detecting the presence or absence of a signal generated from the interaction of the compound with (I);

(6) an agonist or an antagonist of the activity or expression of (I);

(7) an expression system (IV) comprising a polynucleotide capable of producing a polypeptide (I) in a compatible host cell;

(8) a host cell (V) comprising (IV) or a membrane expressing or comprising (I);

(9) producing a polypeptide (I) by culturing a host cell;

(10) production of a host cell comprising the expression system or a membrane expressing (I) by transforming or transfecting a cell with an expression system comprising a polynucleotide capable of producing (I);

(11) a computer readable medium having stored a member selected from a group comprising a polynucleotide comprising a sequence (S1)-(S5) of 3015, 804, 27, 30 or 2415 base pairs (given in the specification), a polypeptide comprising (A), a set of polynucleotide sequences where at least one of the sequences comprises (S1)-(S5), a set of polypeptide sequences comprising (A), a data set representing a polynucleotide comprising (S1)-(S5), a data set representing a polynucleotide sequence encoding a polypeptide comprising (A), a polynucleotide comprising (S1)-(S5) a set of polypeptide sequences where at least one of the sequences comprises (A), a data set representing a polynucleotide sequence encoding a polypeptide sequence comprising (A), and

(12) a computer based method for performing homology identification comprising providing a polynucleotide sequence comprising a 3015 base pair sequence (fully defined in the specification) in a computer readable medium and comparing the polynucleotide sequence to at least one polynucleotide or polypeptide sequence to identify homology.

ACTIVITY - Antimicrobial.

MECHANISM OF ACTION - None given.

USE - (I) and polynucleotides are useful for the treatment of microbial diseases (especially in the form of vaccines) and the methods are useful for identifying agonists and antagonists. (I) are also useful for relating to diagnostic assays for detecting diseases associated with microbial infections (especially infections by Streptococcus pneumoniae) and conditions associated with such

infections and assays for detecting priA expression or activity. The polypeptides were useful in the discovery and development of antibacterial compounds. The encoded protein upon expression can be used as a target for screening of antibacterial drugs.

ADVANTAGE - None given.

Dwg.0/0

L22 ANSWER 28 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-265618 [23] WPIDS
DOC. NO. NON-CPI: N1999-198028
DOC. NO. CPI: C1999-078427
TITLE: New aroC gene useful in diagnosing and treating diseases such as meningitis, pneumonia and endocarditis.
DERWENT CLASS: B04 D16 S03 T01
INVENTOR(S): BISWAS, S; BROWN, J R; BRYANT, A; CHALKER, A F; HOLMES, D J; INGRAHAM, K A; MARRA, A; PAYNE, D J; ZALACAIN, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 27
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 913480 | A2 | 19990506 | (199923)* | EN | 37 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2249002 | A1 | 19990503 | (199942) | EN | |
| JP 2000197482 | A | 20000718 | (200040)# | | 101 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 913480 | A2 | EP 1998-203627 | 19981026 |
| CA 2249002 | A1 | CA 1998-2249002 | 19981029 |
| JP 2000197482 | A | JP 1998-352054 | 19981104 |

PRIORITY APPLN. INFO: US 1997-64039P 19971103; JP 1998-352054 19981104
AN 1999-265618 [23] WPIDS
AB EP 913480 A UPAB: 19990616

NOVELTY - A new polypeptide from Streptococcus pneumoniae has at least 70-95% identity with a fully defined sequence of 338 amino acids and is encoded by the 1167 base recombinant polynucleotide sequence given in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a polynucleotide or its complement (II) comprising:

(a) a polynucleotide encoding a polypeptide with at least 70-95 % identity to the fully defined 338 amino acid sequence ; or

(b) a polynucleotide with at least 70-95% identity to the fully defined 1167 base sequence ;

(2) an antibody antigenic to or immunospecific for (I);

(3) a **method** for treating:

(a) an individual requiring (I) comprising administering (II) or an agonist of (I); and

(b) an individual requiring inhibition of (I) comprising administering an antagonist of (I), a polynucleotide which interferes with expression of (II) or a polypeptide which competes with (I);

(4) an agonist or antagonist of (I);

(5) an expression system comprising (II) in a host cell (III);

(6) (III) or part of its membrane expressing (I);

(7) a **process** for producing (I) comprising culturing (III);

(8) a **process** for producing (III) comprising transfecting a cell with (II);

(9) a database comprising the sequences of (I) and (II); and

(10) a computer based homology search comprising searching for sequence overlap between (II) and another sequence.

ACTIVITY - Administered (I), (II) or antibodies or agonists of (I) are antibacterial and anti-inflammatory.

MECHANISM OF ACTION - Administered (I) or (II) provokes an immune response to inhibit endogenous (I). Antagonists of (I) inhibit endogenous (I).

USE - (II) may be administered as gene **therapy** to allow in vivo expression of (I) in patients. This stimulates an immune response against (I) and protects against **infection** by **Streptococcus pneumoniae**. Agonists of (I) may be administered to patients requiring enhanced activity of (I). Similarly **antagonists** of (I) such as antibodies against (I) may be administered to **inhibit** activity of (I) in patients. Diseases caused by Streptococcus pneumoniae include meningitis, pneumonia, conjunctivitis, bacteremia, sinusitis and endocarditis. These diseases may be diagnosed by detecting mutation in (II) or detecting the presence of (I) in a sample from a patient. RT-PCR may be used as part of a differential display regime to detect (II) in infected tissue from a patient. (I) may be used to screen for agonists or **antagonists** of (I) by contacting it with a candidate compound in the presence of a signal system or by monitoring the effect of the compound on production and expression of the mRNA encoding (I). Fusion **proteins** incorporating (I) and the Fc portion of immunoglobulins may be used in high-throughput screening assays to identify **antagonists** of (I). (II) may be used as hybridization probes to isolate full length cDNAs encoding (I) or other **proteins**. (II) may be used for serotyping and taxonomic classification of infecting organisms and to monitor gene expression, genetic linkage and genetic variability. (II) is also useful for chromosome mapping and may be incorporated into polynucleotide arrays for diagnostic and prognostic purposes. Antibodies against (I) may be used to isolate clones expressing (I) by affinity chromatography. (I), (II) and antibodies to (I) may be used to devise screens for compounds which alter expression of the mRNA expressing (I). (I) may also be used to identify membrane-bound or soluble receptors of (I).

Frozen infected tissue samples were placed in a dry ice ethanol bath and 50-100 mg were disrupted with 1 ml of extraction reagents (FastRNA BIO101) in the presence of a silica/ceramic matrix. The samples were shaken in a reciprocating shaker (fastprep FP120, BIO101) at 6000 rpm for 20-120 seconds. The crude RNA was extracted with chloroform/isoamyl alcohol and precipitated with DEPC-treated/isopropanol precipitation solution (BIO101). The RNA was pelleted (12,000 g for 10 minutes), washed with 75% ethanol, air-dried for 5-10 minutes and resuspended in 0.1 ml of DEPC-treated

water, followed by 5-10 minutes at 55oC. After at least 1 minute on ice 200 units of Rnasin was added. DNA was removed from 50 micro g samples by a 30 minute treatment at 37oC with 20 units of RNAase-free DNAasel in the buffer supplied in a final volume of 57 micro l. The DNAase was inactivated and removed by treatment with TRIzol LS Reagent (Gibco BRL) according to the manufacturers protocol. DNAase-treated RNA was resuspended in 100 micro l DEPC-treated water with the addition of Rnasin. 3 micro g samples of DNAase-treated RNA were reverse transcribed using a Superscript Preamplification System for First Strand cDNA Synthesis kit (Gibco BRL) according to the manufacturers instructions. 150 ng of random hexamers were used to prime each reaction. PCR reactions were set up on ice, containing 43 microlitres of PCR Master Mix (Advanced Biotechnologies Ltd.), 1 micro l PCR primers at 10 mM initial concentration and 5 micro l cDNA. The reactions were run on a Perkin Elmer GeneAmp PCR System 9600. 10 micro l aliquots were then run out on 1 % 1 x TBE gels stained with ethidium bromide. The sizes of PCR products are compared to the predicted sizes of RNAs from Streptococcus pneumoniae such as that encoding aroC. The presence of products of the correct size indicates infection with Streptococcus pneumoniae.

ADVANTAGE - Prior art **methods** of control of Streptococcus pneumoniae involved administration of antibiotics. However the frequency of infections by Streptococcus pneumoniae has risen in recent decades due to multiply resistant strains of this bacterium and increasing numbers of people with weakened immune systems. The new aroC protein is important for viability of Streptococcus pneumoniae so an immune response against it will prevent or ameliorate infection by this organism without the use of antibiotics.

Dwg.0/0

L22 ANSWER 29 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-256632 [22] WPIDS
DOC. NO. NON-CPI: N1999-191208
DOC. NO. CPI: C1999-075297
TITLE: New adenine glycosylase from Streptococcus pneumoniae useful for diagnosing and treating diseases such as meningitis, pneumonia and endocarditis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BLACK, M T; BROWN, J R; HODGSON, J E; HOLMES, D J; KNOWLES, D J C; LONETTO, M A; NICHOLAS, R O; STODOLA, R K; ZALACAIN, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 27
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 913479 | A2 | 19990506 | (199922)* | EN | 30 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2248116 | A1 | 19990427 | (199941) | EN | |
| JP 11253185 | A | 19990921 | (199950) | | 70 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 913479 | A2 | EP 1998-203504 | 19981019 |
| CA 2248116 | A1 | CA 1998-2248116 | 19981021 |
| JP 11253185 | A | JP 1998-344818 | 19981027 |

PRIORITY APPLN. INFO: US 1997-958676 19971027
AN 1999-256632 [22] WPIDS
AB EP 913479 A UPAB: 19990609
NOVELTY - A polypeptide (I) is new and has at least 70% identity to the sequence of 391 amino acids given in the specification, which codes for the mutY adenine glycosylase from Streptococcus pneumoniae.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a polynucleotide or its complement (II) at least 15 bases long selected from:

(a) a polynucleotide with at least 70% identity to a polynucleotide encoding mutY; and

(b) a polynucleotide encoding (I);

(2) a vector (III) comprising (II);

(3) a host cell comprising (III);

(4) a **process** for producing (I) by expressing it from the host cell;

(5) an antibody against (I); and

(6) an antagonist of (I).

ACTIVITY - Administered mutY and its antagonists are antibacterial and antiinflammatory.

MECHANISM OF ACTION - Administered mutY raises an immune response directed to mutY in infecting Streptococcus pneumoniae. Administered antagonists of mutY inhibit its activity.

USE - MutY can be used to vaccinate patients and raise an immune response against Streptococcus pneumoniae by administration of the **protein**. MutY **protein** may also be applied to implanted devices, wounds or skin to protect against or **treat Streptococcus pneumoniae infections**. Similarly (II) may be administered to a patient to cause in vivo expression of mutY which will then stimulate an immune response. Administration of mutY or (II) will also protect against Helicobacter pylori infection which causes diseases such as stomach cancer, ulcers and gastritis. **Antagonists** of mutY may be administered to **inhibit** mutY in an infected individual. Diseases such as meningitis, pneumonia, endocarditis, conjunctivitis and sinusitis may be diagnosed by detection of (II) in an individual by RT-PCR, or detecting mutY in a cell sample from a patient. Detection of (II) using PCR can also be used to gauge the stage of **infection** of **Streptococcus pneumoniae** as certain bacterial **proteins** are expressed only at certain stages of infection. Agonists and **antagonists** of mutY may be identified by contacting it with a candidate compound in the presence of a signal system. (II) may be used as hybridization probes to isolate cDNAs encoding mutY. Antibodies against mutY can be used to identify clones expressing mutY by affinity chromatography.

Infected tissue sample were thawed in a dry ice ethanol bath. To disperse the tissue, 50 100 mg were added to a silica/ceramic mix

and 1 ml of extraction agents (FasttRNA BIO101) were added (sample:reagent volume = 1:20). The tubes were shaken in a reciprocating shaker (FastPrep FP120 BIO101) at 6000rpm for 20-120 seconds. The crude RNA preparation was extracted with chloroform/isoamyl alcohol and precipitated with DEPC-treated/Isopropanol Precipitation solution (BIO101). The RNA was pelleted (12000g, 10 minutes), washed with 75% ethanol, air-dried for 5-10 minutes and resuspended in 0.1 ml DEPC-treated water followed by 5-10 minutes at 55oC. After at least 1 minute on ice, 200 units of Rnasin were added. RNA yields were assessed using 1 x TBE gels stained with ethidium bromide. To demonstrate isolation of bacterial RNA from infected tissue 1 x MOPS, 2.2M formaldehyde gels were run and vacuum blotted onto Hybond-N (Amersham). The blots were hybridized with a 32P labelled oligonucleotide probe of sequence 5' AACTGAGACTGGCTTTAAGAGATTA 3', specific to 16S rRNA from Streptococcus pneumoniae. The size of bands arising from hybridization were compared to those of RNA from Streptococcus pneumoniae grown in vitro. Correctly sized rRNA were detected from the infected tissue showing that this may be used as a diagnostic tool.

ADVANTAGE - Prior art **methods** of controlling bacterial infections involved administration of antibiotics. However many bacterial strains are now resistant to some or all antibiotics. This, along with weakened immune systams in many patients has caused an increase in the number of diseases caused by bacterial infections. The new mutY protein is expressed by Streptococcus pneumoniae at specific stages of infection. It is important for bacterial viability as it contributes to the removal of oxidized guanidines from the genome, which can cause mismatches and mutations. MutY and the sequences encoding it can therefore be used to diagnose or prevent bacterial infections without the use of antibiotics.

Dwg.0/0

L22 ANSWER 30 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-155938 [14] WPIDS
DOC. NO. NON-CPI: N1999-112678
DOC. NO. CPI: C1999-046117
TITLE: New Streptococcus pneumoniae Histidine Kinase (HK) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococci infections, which cause conjunctivitis, otitis media and meningitis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BLACK, M T
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 900845 | A2 | 19990310 | (199914)* | EN | 32 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2242313 | A | 19990303 | (199933) | | |
| JP 11235183 | A | 19990831 | (199946) | | 89 |
| US 6284515 | B1 | 20010904 | (200154) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 900845 | A2 | EP 1998-306742 | 19980824 |
| CA 2242313 | A | CA 1998-2242313 | 19980825 |
| JP 11235183 | A | JP 1998-289963 | 19980903 |
| US 6284515 | B1 Provisional | US 1997-57890P | 19970903 |
| | | US 1998-35382 | 19980305 |

PRIORITY APPLN. INFO: US 1998-35382 19980305; US 1997-57890P 19970903

AN 1999-155938 [14] WPIDS

AB EP 900845 A UPAB: 19990412

NOVELTY - A Streptococcus pneumoniae Histidine Kinase (HK) polypeptide which is a component of the two component signal transduction system (TCSTS) in bacteria, comprises at least 70% identity to sequence (I), a fully defined 560 amino acid protein given in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following: (1) an isolated polynucleotide (II) (DNA or RNA) comprising a sequence selected from a polynucleotide which: (i) has 70% identity to a polynucleotide encoding: (a) polypeptide (I); (b) the mature HK polypeptide expressed Streptococcus pneumoniae 0100993; (ii) is complementary to the polynucleotides; and (iii) comprises at least 15 sequential bases of polynucleotides (i) or (ii); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific to HK polypeptide (I); (5) an antagonist which inhibits activity or expression of HK polypeptide (I); and (6) preparation of HK polypeptide (I).

USE - HK **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of HK **protein** by identifying mutations in the HK gene, or determining HK **polypeptide** or mRNA expression levels due to an infection of an organism with the HK gene (claimed). They can diagnose the stage and type of infection. HK **polypeptides** are also useful for screening for compounds which affect activity of the **protein** by measuring the binding to **polypeptide** (I) and observing the stimulation or **inhibition** of the **polypeptide** function (claimed). These can be used in **treatment** to **inhibit** ( **antagonist** i.e. antibacterial **drugs**) or enhance (agonist) HK activity, in addition to direct administration of HK **polypeptides** to **treat** conditions associated with a lack of HK **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. HK **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections**, which cause otitis media, conjunctivitis, bacteremia, sinusitis, pleural empyema, endocarditis and especially meningitis. HK **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are

useful for use on wounds and body implants to prevent bacterial infection.
Dwg.0/0

L22 ANSWER 31 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-155936 [14] WPIDS
DOC. NO. NON-CPI: N1999-112677
DOC. NO. CPI: C1999-046115
TITLE: New Streptococcus pneumoniae Fifty-Four Homologue (Ffh) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococci infections, which cause otitis media, sinusitis and conjunctivitis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BLACK, M T
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 900843 | A2 | 19990310 | (199914)* | EN | 21 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2241417 | A | 19990302 | (199933) | | |
| JP 11221087 | A | 19990817 | (199943) | | 55 |
| US 5972651 | A | 19991026 | (199952) | | |
| US 6350857 | B1 | 20020226 | (200220) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 900843 | A2 | | EP 1998-306685 | 19980820 |
| CA 2241417 | A | | CA 1998-2241417 | 19980820 |
| JP 11221087 | A | | JP 1998-288632 | 19980902 |
| US 5972651 | A | | US 1997-923772 | 19970902 |
| US 6350857 | B1 | Div ex | US 1997-923772 | 19970902 |
| | | | US 1999-385287 | 19990830 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| US 6350857 | B1 | Div ex | US 5972651 |

PRIORITY APPLN. INFO: US 1997-923772 19970902; US 1999-385287 19990830
AN 1999-155936 [14] WPIDS
AB EP 900843 A UPAB: 19990424
NOVELTY - A polypeptide comprises at least 70% identity to sequence (I), a fully defined 523 amino acid Streptococcus pneumoniae Fifty-Four Homologue (Ffh) protein given in the specification, which is a component of the protein secretory apparatus in bacteria, and the bacterial homolgue of the eukaryotic Signal Recognition Particle.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included

for: (1) an isolated polynucleotide (II) (DNA or RNA) comprising a sequence selected from a polynucleotide which: (i) has 70% identity to a polynucleotide encoding: (a) polypeptide (I); (b) the mature Ffh polypeptide expressed by Streptococcus pneumoniae 0100993; (ii) is complementary to the polynucleotides; and (iii) comprises at least 15 sequential bases of polynucleotides (i) or (ii); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific to Ffh polypeptide (I); (5) an antagonist which inhibits activity or expression of Ffh polypeptide (I); and (6) preparation of Ffh polypeptide (I).

USE - Ffh **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of Ffh **protein** by identifying mutations in the Ffh gene, or determining Ffh **polypeptide** or mRNA expression levels due to an infection of an organism with the Ffh gene (claimed). They can diagnose the stage and type of infection. Ffh **polypeptides** are also useful for screening for compounds which affect activity of the **protein** by measuring the binding to **polypeptide** (I) and observing the stimulation or **inhibition** of the **polypeptide** function (claimed). These can be used in **treatment** to **inhibit** ( **antagonist** i.e. antibacterial **drugs**) or enhance (agonist) Ffh activity, in addition to direct administration of Ffh **polypeptides** to **treat** conditions associated with a lack of Ffh **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. Ffh **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections**, which cause otitis media, conjunctivitis, bacteremia, sinusitis, pleural empyema, endocarditis and especially meningitis. Ffh **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

Dwg.0/0

L22 ANSWER 32 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-144807 [13] WPIDS
DOC. NO. CPI: C1999-042562
TITLE: New Streptococcus pneumoniae spoIIIE polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcal infections which cause bacteremia and meningitis.
DERWENT CLASS: B04 D16
INVENTOR(S): BROWN, J R; BRYANT, A P; CHALKER, A F; FELIU, M M Z; ZALACAIN FELIU, M M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (BROW-I) BROWN J R; (BRYA-I) BRYANT A P; (CHAL-I) CHALKER A F; (FELI-I) ZALACAIN FELIU M M
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 899336 | A2 | 19990303 | (199913)* | EN | 23 |

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

| | | | |
|---|---|---|---|
| US 5888770 | A | 19990330 (199920) | |
| CA 2241431 | A | 19990226 (199932) | |
| JP 11225776 | A | 19990824 (199944) | 60 |
| US 6222016 | B1 | 20010424 (200125) | |
| US 2002019515 | A1 | 20020214 (200214) | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 899336 | A2 | | EP 1998-306605 | 19980818 |
| US 5888770 | A | | US 1997-922837 | 19970826 |
| CA 2241431 | A | | CA 1998-2241431 | 19980820 |
| JP 11225776 | A | | JP 1998-281887 | 19980826 |
| US 6222016 | B1 | Div ex | US 1997-922837 | 19970826 |
| | | | US 1999-351550 | 19990712 |
| US 2002019515 | A1 | Div ex | US 1997-922837 | 19970826 |
| | | Div ex | US 1999-351550 | 19990712 |
| | | | US 2001-775978 | 20010202 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| US 6222016 | B1 | Div ex | US 5888770 |
| US 2002019515 | A1 | Div ex | US 5888770 |
| | | Div ex | US 6222016 |

PRIORITY APPLN. INFO: US 1997-922837 19970826; US 1999-351550 19990712; US 2001-775978 20010202

AN 1999-144807 [13] WPIDS

AB EP 899336 A UPAB: 19990331

A membrane bound protein (spoIIIE) involved in chromosome partitioning during sporulation and vegetative replication comprising at least 70% identity to sequence (I), a fully defined 783 amino acid protein given in the specification, is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA) comprising a sequence selected from a polynucleotide which: (i) has 70% identity to a polynucleotide encoding: (a) polypeptide (I); (b) the mature spoIIIE polypeptide expressed by Streptococcus pneumoniae 0109933; (ii) is complementary to the polynucleotides; and (iii) comprises at least 15 sequential bases of polynucleotides (i) or (ii); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific to spoIIIE polypeptide (I); and (5) an antagonist which inhibits activity or expression of spoIIIE polypeptide (I).

USE - SPoIIIE **polypeptides** and polynucleotides are useful for diagnosing diseases due to an infection of an organism with the spoIIIE gene by detecting the presence of a spoIIIE encoding nucleic acid or analysing for the presence or amount of spoIIIE **polypeptide** (claimed). They can diagnose the stage and type of infection. SpoIIIE **polypeptides** are also useful for screening for compounds which affect activity of the **protein** by measuring the binding to **polypeptide** (I) and observing the stimulation or **inhibition** of the **polypeptide** function (claimed). These can be used in

**treatment** to **inhibit** (**antagonist** i.e. antibacterial **drugs**) or enhance (agonist) spoIIIE activity, in addition to direct administration of spoIIIE **polypeptides** to **treat** conditions associated with a lack of spoIIIE **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. SpoIIIE **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include:bacterial **infections**, especially **Streptococcus pneumoniae infections** which cause otitis media, conjunctivitis, pneumonia, bacteremia, sinusitis, pleural empyema and endocarditis and especially meningitis. SpoIIIE **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.
Dwg.0/0

L22 ANSWER 33 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-123271 [11] WPIDS
DOC. NO. NON-CPI: N1999-090163
DOC. NO. CPI: C1999-036266
TITLE: New Streptococcus pneumoniae RNA polymerase alpha subunit (rpoA) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections which cause sinusitis and meningitis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): PALMER, L M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 27
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 896061 | A2 | 19990210 | (199911)* | EN | 23 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2239222 | A | 19990208 | (199930) | | |
| JP 11206389 | A | 19990803 | (199941) | | 56 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 896061 | A2 | EP 1998-306052 | 19980729 |
| CA 2239222 | A | CA 1998-2239222 | 19980731 |
| JP 11206389 | A | JP 1998-257430 | 19980807 |

PRIORITY APPLN. INFO: US 1997-907704 19970808
AN 1999-123271 [11] WPIDS
AB EP 896061 A UPAB: 19990316
A DNA-directed RNA polymerase alpha -subunit (rpoA) polypeptide comprising at least 70% identity to sequence (I), a fully defined 311 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA)

comprising a sequence selected from a polynucleotide which: (i) has 70% identity to a polynucleotide encoding: (a) polypeptide (I); (b) the mature rpoA polypeptide expressed by Streptococcus pneumoniae 0100993; (ii) is complementary to the polynucleotides; and (iii) comprises at least 15 sequential bases of polynucleotides (i) or (ii); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific to rpoA polypeptide (I); and (5) an antagonist which inhibits activity or expression of rpoA polypeptide (I).

USE - RpoA **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of rpoA **protein** by identifying mutations in the rpoA gene, or determining rpoA **polypeptide** or mRNA expression levels due to an infection of an organism with the rpoA gene (claimed). They can diagnose the stage and type of infection. RpoA **polypeptides** are also useful for screening for compounds which affect activity of the **protein** by measuring the binding to **polypeptide** (I) and observing the stimulation or **inhibition** of the **polypeptide** function (claimed). These can be used in **treatment** to **inhibit** (**antagonist** i.e. antibacterial **drugs**) or enhance (agonist) rpoA activity, in addition to direct administration of rpoA **polypeptides** to **treat** conditions associated with a lack of rpoA **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. RpoA **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections** which cause otitis media, conjunctivitis, pneumonia, bacteremia, sinusitis, pleural empyema, endocarditis and particularly meningitis. RpoA **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

L22 ANSWER 34 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-108351 [10] WPIDS
DOC. NO. CPI: C1999-032524
TITLE: New glycogen phosphorylase (GP) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections, including bacteremia and meningitis.
DERWENT CLASS: B04 D16
INVENTOR(S): BURNHAM, M; BURNHAM, M K R
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 894861 | A2 | 19990203 | (199910)* | EN | 40 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| US 5882885 | A | 19990316 | (199918) | | |

CA 2237045 A 19990117 (199927)
JP 11137275 A 19990525 (199931) 84

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 894861 | A2 | EP 1998-305244 | 19980701 |
| US 5882885 | A | US 1997-896590 | 19970717 |
| CA 2237045 | A | CA 1998-2237045 | 19980707 |
| JP 11137275 | A | JP 1998-236237 | 19980717 |

PRIORITY APPLN. INFO: US 1997-896590 19970717
AN 1999-108351 [10] WPIDS
AB EP 894861 A UPAB: 19990310
A glycogen phosphorylase (GP) polypeptide comprising at least 70% identity to sequence (I), a fully defined 752 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA) comprising a sequence selected from a polynucleotide which: (i) has 70% identity to a polynucleotide encoding: (a) polypeptide (I); (b) the mature GP polypeptide expressed Streptococcus pneumoniae 0100993; (ii) is complementary to the polynucleotides; and (iii) comprises at least 15 sequential bases of polynucleotides (i) or (ii); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific to GP polypeptide (I); and (5) an antagonist which inhibits activity or expression of GP polypeptide (I).

GP **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of GP **protein** by identifying mutations in the GP gene, or determining GP **polypeptide** or mRNA expression levels due to an infection of an organism with the GP gene (claimed). They can diagnose the stage and type of infection. GP **polypeptides** are also useful for screening for compounds which affect activity of the **protein** by measuring the binding to **polypeptide** (I) and observing the stimulation or **inhibition** of the **polypeptide** function (claimed). These can be used in **treatment** to **inhibit** ( **antagonist** i.e. antibacterial **drugs**) or enhance (agonist) GP activity, in addition to direct administration of GP **polypeptides** to **treat** conditions associated with a lack of GP **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. GP **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections**, which cause otitis media, conjunctivitis, bacteremia, sinusitis, pleural empyema, endocarditis and especially meningitis. GP **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

L22 ANSWER 35 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-108350 [10] WPIDS

DOC. NO. NON-CPI: N1999-078433
DOC. NO. CPI: C1999-032523
TITLE: New Streptococcus pneumoniae prolyl tRNA synthetase (proS) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections, including bacteremia and meningitis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): GENTRY, D R; GREENWOOD, R C; LAWLOR, E J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 19
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 894858 | A2 | 19990203 | (199910)* | EN | 29 |
| R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE | | | | | |
| JP 11046776 | A | 19990223 | (199918) | | 25 |
| JP 2002142782 | A | 20020521 | (200237) | | 25 |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 894858 | A2 | | EP 1997-308252 | 19971017 |
| JP 11046776 | A | | JP 1997-321883 | 19971017 |
| JP 2002142782 | A | Div ex | JP 1997-321883 | 19971017 |
| | | | JP 2001-259873 | 19971017 |

PRIORITY APPLN. INFO: US 1997-902584 19970729
AN 1999-108350 [10] WPIDS
AB EP 894858 A UPAB: 19990310
A prolyl tRNA synthetase (proS) polypeptide comprising at least 70% identity to sequence (I), a fully defined 618 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA) comprising a sequence selected from a polynucleotide which: (i) has 70% identity to a polynucleotide encoding: (a) polypeptide (I); (b) the mature proS polypeptide expressed Streptococcus pneumoniae 0100993; (ii) is complementary to the polynucleotides; and (iii) comprises at least 15 sequential bases of polynucleotides (i) or (ii); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific to proS polypeptide (I); and (5) an antagonist which inhibits activity or expression of proS polypeptide (I).

ProS **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of proS **protein** by identifying mutations in the proS gene, or determining proS **polypeptide** or mRNA expression levels due to an infection of an organism with the proS gene (claimed). They can diagnose the stage and type of infection. proS **polypeptides** are also useful for screening for compounds which affect activity of the **protein** by measuring the binding to **polypeptide** (I) and observing the stimulation or **inhibition** of the **polypeptide** function (claimed). These can be used in **treatment** to **inhibit** (**antagonist** i.e. antibacterial

**drugs**) or enhance (agonist) proS activity, in addition to direct administration of proS **polypeptides** to **treat** conditions associated with a lack of proS **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. proS **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections**, which cause otitis media, conjunctivitis, bacteremia, sinusitis, pleural empyema, endocarditis and especially meningitis. ProS **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

L22 ANSWER 36 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-083576 [08] WPIDS
DOC. NO. CPI: C1999-025353
TITLE: New Histidine Kinase polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections, especially meningitis.
DERWENT CLASS: B04 D16
INVENTOR(S): WALLIS, N G
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC; (WALL-I) WALLIS N G
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 892059 | A2 | 19990120 | (199908)* | EN | 37 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2235422 | A | 19981220 | (199923) | | |
| JP 11123088 | A | 19990511 | (199929) | | 25 |
| US 2001006799 | A1 | 20010705 | (200139) | | |
| US 6268172 | B1 | 20010731 | (200146) | | |
| US 6348340 | B2 | 20020219 | (200221) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 892059 | A2 | | EP 1998-304782 | 19980617 |
| CA 2235422 | A | | CA 1998-2235422 | 19980618 |
| JP 11123088 | A | | JP 1998-210188 | 19980619 |
| US 2001006799 | A1 | Div ex | US 1997-879941 | 19970620 |
| | | | US 2000-747116 | 20001222 |
| US 6268172 | B1 | | US 1997-879941 | 19970620 |
| US 6348340 | B2 | Div ex | US 1997-879941 | 19970620 |
| | | | US 2000-747116 | 20001222 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|

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US 6348340 B2 Div ex US 6268172

PRIORITY APPLN. INFO: US 1997-879941 19970620; US 2000-747116 20001222

AN 1999-083576 [08] WPIDS

AB EP 892059 A UPAB: 19990224

A Histidine Kinase (HK) polypeptide which is a component of the two component signal transduction system (TCSTS) in bacteria, comprising at least 70% identity to sequence (I), a fully defined 446 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA) comprising a sequence selected from a polynucleotide which: (i) has 70% identity to a polynucleotide encoding: (a) polypeptide (I); (b) the mature HK polypeptide expressed Streptococcus pneumoniae 0100993; (ii) is complementary to the polynucleotides; and (iii) comprises at least 15 sequential bases of polynucleotides (i) or (ii); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific to HK polypeptide (I); and (5) an antagonist which inhibits activity or expression of HK polypeptide (I).

USE - HK **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of HK **protein** by identifying mutations in the HK gene, or determining HK **polypeptide** or mRNA expression levels due to an infection of an organism with the HK gene (claimed). They can diagnose the stage and type of infection. HK **polypeptides** are also useful for screening for compounds which affect activity of the **protein** by measuring the binding to **polypeptide** (I) and observing the stimulation or **inhibition** of the **polypeptide** function (claimed). These can be used in **treatment** to **inhibit** ( **antagonist** i.e. antibacterial **drugs**) or enhance (agonist) HK activity, in addition to direct administration of HK **polypeptides** to **treat** conditions associated with a lack of HK **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. HK **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections**, which cause otitis media, conjunctivitis, bacteremia, sinusitis, pleural empyema, endocarditis and especially meningitis. HK **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

L22 ANSWER 37 OF 49 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 1999-083519 [08] WPIDS

CROSS REFERENCE: 1999-037060 [04]; 2001-556618 [55]

DOC. NO. NON-CPI: N1999-060269

DOC. NO. CPI: C1999-025296

TITLE: New Streptococcus pneumoniae Response Regulator (RR) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections,

including pleural empyema and meningitis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): WALLIS, N G
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC; (WALL-I) WALLIS N G
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 891984 | A2 | 19990120 | (199908)* | EN | 39 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2235441 | A | 19981220 | (199923) | | |
| JP 11225772 | A | 19990824 | (199944) | | 85 |
| US 6224869 | B1 | 20010501 | (200126) | | |
| US 2002065395 | A1 | 20020530 | (200240) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 891984 | A2 | | EP 1998-304786 | 19980617 |
| CA 2235441 | A | | CA 1998-2235441 | 19980618 |
| JP 11225772 | A | | JP 1998-210192 | 19980618 |
| US 6224869 | B1 | Div ex | US 1997-879531 | 19970620 |
| | | | US 1999-321276 | 19990527 |
| US 2002065395 | A1 | Div ex | US 1997-879531 | 19970620 |
| | | | US 2001-800396 | 20010306 |

PRIORITY APPLN. INFO: US 1997-879531 19970620; US 1999-321276 19990527; US 2001-800396 20010306
AN 1999-083519 [08] WPIDS
CR 1999-037060 [04]; 2001-556618 [55]
AB EP 891984 A UPAB: 20020626
A Response Regulator (RR) polypeptide which is a component of the two component signal transduction system (TCSTS) in bacteria, comprising at least 70% identity to sequence (I), a fully defined 245 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA) comprising a sequence selected from a polynucleotide which: (i) has 70% identity to a polynucleotide encoding: (a) polypeptide (I); (b) the mature RR polypeptide expressed by Streptococcus pneumoniae 0100993; (ii) is complementary to the polynucleotides; and (iii) comprises at least 15 sequential bases of polynucleotides (i) or (ii); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific to RR polypeptide (I); and (5) an antagonist which inhibits activity or expression of RR polypeptide (I).

RR **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of RR **protein** by identifying mutations in the RR gene, or determining RR **polypeptide** or mRNA expression levels due to an infection of an organism with the RR gene (claimed). They can diagnose the stage and type of infection. RR **polypeptides** are also useful for screening for compounds which affect activity of the **protein** by measuring the binding to

**polypeptide** (I) and observing the stimulation or **inhibition** of the **polypeptide** function (claimed). These can be used in **treatment** to **inhibit** ( **antagonist** i.e. antibacterial **drugs**) or enhance (agonist) RR activity, in addition to direct administration of RR **polypeptides** to **treat** conditions associated with a lack of RR **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. RR **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections**, which cause otitis media, conjunctivitis, bacteremia, sinusitis, pleural empyema, endocarditis and especially meningitis. RR **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

L22 ANSWER 38 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-072883 [07] WPIDS
CROSS REFERENCE: 1998-159452 [14]; 1998-458798 [40]; 1999-279570 [24]; 1999-347727 [29]
DOC. NO. CPI: C1999-021868
TITLE: New Streptococcus pneumoniae DNA helicase (PcrA) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections, including meningitis.
DERWENT CLASS: B04 D16
INVENTOR(S): BLACK, M T; HODGSON, J E; HOLMES, D J; KNOWLES, D J C; LONETTO, M A; NICHOLAS, R O; STODOLA, R K; O'NICHOLAS, R
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 890647 | A2 | 19990113 | (199907)* | EN | 33 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| US 5858718 | A | 19990112 | (199910) | | |
| CA 2236473 | A | 19990108 | (199925) | | |
| JP 11137271 | A | 19990525 | (199931) | | 25 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 890647 | A2 | EP 1998-305343 | 19980706 |
| US 5858718 | A | US 1997-889711 | 19970708 |
| CA 2236473 | A | CA 1998-2236473 | 19980706 |
| JP 11137271 | A | JP 1998-229240 | 19980708 |

PRIORITY APPLN. INFO: US 1997-889711 19970708
AN 1999-072883 [07] WPIDS
CR 1998-159452 [14]; 1998-458798 [40]; 1999-279570 [24]; 1999-347727 [29]
AB EP 890647 A UPAB: 20020730
A Streptococcal pneumoniae DNA helicase (PcrA) polypeptide comprising an amino acid sequence at least 70% identical to sequence (I), a fully defined 763 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (DNA or RNA) sequence which: (i) is complementary or at least 70% identical to PcrA polynucleotide (II), a fully defined 2292 bp nucleic acid encoding (I); (ii) encodes a polypeptide complementary or at least 70% identical to (I); and (iii) comprises at least 15 sequential bases of (i) or (ii) (a probe); (2) a vector comprising polynucleotide of (1); (3) a host cell comprising the vector; (4) an antibody immunospecific for the PcrA polypeptide; and (5) an antagonist which inhibits activity or expression of the PcrA polypeptide.

USE - PcrA **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of PcrA **protein** by identifying mutations in the PcrA gene using probes (1iii), or determining an increase in PcrA **polypeptide** expression levels due to an infection of an organism with the PcrA gene (claimed). PcrA **polypeptides** are useful for screening for compounds which affect activity of the **protein** by measuring the binding to **polypeptide** (I), and observing the stimulation or **inhibition** of **polypeptide** (I) function (claimed). These can be used for **treatment** to **inhibit** (**antagonist** i.e. antibacterial **drugs**) or enhance (agonist) PcrA activity, in addition to direct administration of PcrA **polypeptides** to **treat** conditions associated with a lack of PcrA **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. PcrA **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise and prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections**; otitis media; conjunctivitis; pneumonia; bacteremia; sinusitis; pleural empyema; endocarditis and especially meningitis. PcrA **polypeptides** prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

L22 ANSWER 39 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-072877 [07] WPIDS
DOC. NO. CPI: C1999-021862
TITLE: New Streptococcus pneumoniae signal peptidase (II) (IspA) polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections, including meningitis.
DERWENT CLASS: B04 D16
INVENTOR(S): BLACK, M T; ODWYER, K M; O'DWYER, K M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 27

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 890641 | A1 | 19990113 | (199907)* | EN | 21 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2236485 | A | 19990110 | (199926) | | |
| JP 11127875 | A | 19990518 | (199930) | | 55 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 890641 | A1 | EP 1998-305234 | 19980701 |
| CA 2236485 | A | CA 1998-2236485 | 19980706 |
| JP 11127875 | A | JP 1998-229900 | 19980710 |

PRIORITY APPLN. INFO: US 1997-52215P 19970710
AN 1999-072877 [07] WPIDS
AB EP 890641 A UPAB: 19990217
A Streptococcus pneumoniae signal peptidase (II) (IspA) polypeptide comprising an amino acid sequence at least 70% identical to sequence (I), a fully defined 153 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (DNA or RNA) sequence which: (a) is complementary or at least 70% identical to IspA polynucleotide (II), a fully defined 462 bp nucleic acid encoding (I); (b) encodes a polypeptide complementary or at least 70% identical to (I); and (c) comprises at least 15 sequential bases of (a) or (b) (a probe); (2) a vector comprising polynucleotide of (1); (3) a host cell comprising the vector; (4) an antibody immunospecific for the IspA polypeptide; and (5) an antagonist which inhibits activity or expression of the IspA polypeptide.

USE - IspA **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of IspA **protein** by identifying mutations in the IspA gene using probes (1c), or determining an increase in IspA **polypeptide** expression levels due to an infection of an organism with the IspA gene (claimed). IspA **polypeptides** are useful for screening for compounds which affect activity of the **protein** by measuring the binding to IspA **polypeptide** (I), and observing the stimulation or **inhibition** of **polypeptide** function (claimed). These can be used for **treatment** to **inhibit** (**antagonist** i.e. antibacterial **drugs**) or enhance (agonist) IspA activity, in addition to direct administration of IspA **polypeptides** to **treat** conditions associated with a lack of IspA **polypeptide** (claimed), or direct administration of antisense sequences to prevent expression. IspA **polypeptides** (administered directly, in a vector and as a vaccine) and antibodies induce an immune response to immunise an d prevent disease (claimed). Diseases diagnosed, prevented or **treated** include: bacterial **infections**, especially **Streptococcus pneumoniae infections**; otitis media; conjunctivitis; pneumonia; bacteremia; sinusitis; pleural empyema; endocarditis and especially meningitis. IspA

**polypeptides** and polynucleotides prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

L22 ANSWER 40 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-062663 [06] WPIDS
DOC. NO. NON-CPI: N1999-046543
DOC. NO. CPI: C1999-018845
TITLE: New isolated gidA2 polypeptide from Streptococcus pneumoniae - used to diagnose, treat and prevent bacterial infections e.g. S. pneumoniae and meningitis and H. pylori and related cancers, ulcers and gastritis.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): FEDON, J C; KALLENDER, H; LENOX, A L; PALMER, L M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 27
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 889132 | A2 | 19990107 | (199906)* | EN | 42 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2236441 | A | 19990101 | (199924) | | |
| JP 11137266 | A | 19990525 | (199931) | | 109 |
| JP 2000050890 | A | 20000222 | (200020) | | 37 |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 889132 | A2 | | EP 1998-305208 | 19980630 |
| CA 2236441 | A | | CA 1998-2236441 | 19980629 |
| JP 11137266 | A | | JP 1998-223539 | 19980701 |
| JP 2000050890 | A | Div ex | JP 1998-223539 | 19980701 |
| | | | JP 1999-212084 | 19980701 |

PRIORITY APPLN. INFO: US 1997-51378P 19970701
AN 1999-062663 [06] WPIDS
AB EP 889132 A UPAB: 19990217
New isolated polypeptide (I) is at least 70 % identical with sequences of 444 or 331 amino acids ((2) or (4) respectively) over the entire length, is or includes (2) or (4) or is encoded by recombinant nucleic acids of 1500 or 1195 base pairs ((1) and (3) respectively). Also claimed are: (i) an isolated nucleic acid (II) that encodes (I), is at least 70 % identical with (1) or (3), or other sequences encoding (2) and (4), over the entire length, is or includes (1) or (3), is obtained by screening a library with (1), (3) or their fragments under stringent conditions, encodes the mature polypeptide expressed by the gidA2 gene of Streptococcus pneumoniae or is complementary to any of the above in (i); (ii) an antibody (Ab) directed against (I); (iii) an agonist or antagonist (III) of the activity or expression of (I); (iv) an expression system for producing (I); (v) a host cell, or derived membranes, containing the above expression system; and (vi) a computer-readable

medium having sequence data for (I) and (II) stored on it.
USE - (I), its agonists or (II) are used to **treat** conditions requiring increased activity or expression of (I), while conditions (particularly bacterial infections) requiring **inhibition** of such activity or expression are **treated** by administering an **antagonist**, **inhibitory** nucleic acid or competitive **polypeptide**. Especially **infection** by **S. pneumoniae** (e.g. meningitis) is **treated**, but also H. pylori infections (and related cancers, ulcers and gastritis). These antibacterial agents may also be used to **treat** in-dwelling devices to prevent infection or generally as wound **treatments** to prevent adhesion of bacteria to matrix **proteins**. (I)-related conditions, or susceptibility to them, can be diagnosed, staged or prognosed by detecting mutations in (I)-encoding nucleic acid or by determining the presence or amount of (I). (I) or cell membranes of (v) are used to screen for (II) (in any standard binding assay) and cells of (v) are used to produce recombinant (I), used to raise Ab (for use in identifying/isolating (I)-expressing clones, for affinity purification, as **therapeutic** agent and in competitive **drug** screens), to identify (III) or specific receptors, in rational **drug** design and as immunogens for vaccines. (II) or its fragments are used as antisense/ribozyme **therapeutics**, as probes and primers to isolate homologous sequences, to detect (mutant) (II), for chromosomal mapping, to determine bacterial serotypes, for genetic immunisation, to screen for (III) and in rational **drug** design. The medium of (vi) is used to identify homologous sequences and in computer-based polynucleotide assembly (by detecting overlapping regions between different sequences). The active agents are administered e.g. topically, orally or by injection at a dosage of 0.01-10 (preferably 1) mg/kg and vaccinating doses of antigens are 0.5-5 mu g/kg, given 1-3 times at intervals of 1-3 weeks.
Dwg.0/0

L22 ANSWER 41 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-062661 [06] WPIDS
DOC. NO. NON-CPI: N1999-046541
DOC. NO. CPI: C1999-018843
TITLE: New nucleic acid encoding gidB polypeptide from Streptococcus pneumoniae - used to diagnose, prevent and treat S. pneumoniae infections and meningitis and to prevent adhesion of bacteria to matrix proteins.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): KALLENDER, H
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 889130 | A2 | 19990107 | (199906)* | EN | 23 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| US 5866366 | A | 19990202 | (199912) | | |

| | | | |
|---|---|---|---|
| CA 2236459 | A | 19990101 (199924) | |
| JP 11137267 | A | 19990525 (199931) | 56 |
| US 6207449 | B1 | 20010327 (200119) | |
| US 6214346 | B1 | 20010410 (200122) | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 889130 | A2 | EP 1998-305183 | 19980630 |
| US 5866366 | A | US 1997-886633 | 19970701 |
| CA 2236459 | A | CA 1998-2236459 | 19980630 |
| JP 11137267 | A | JP 1998-223542 | 19980701 |
| US 6207449 | B1 Div ex | US 1997-886633 | 19970701 |
| | | US 1998-213081 | 19981216 |
| US 6214346 | B1 Div ex | US 1997-886633 | 19970701 |
| | | US 1998-212979 | 19981216 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| US 6207449 | B1 Div ex | US 5866366 |
| US 6214346 | B1 Div ex | US 5866366 |

PRIORITY APPLN. INFO: US 1997-886633 19970701; US 1998-213081 19981216; US 1998-212979 19981216

AN 1999-062661 [06] WPIDS

AB EP 889130 A UPAB: 19990210

New isolated nucleic acid (I) is at least 70 % identical with a sequence encoding a 237 amino acid protein (2), is at least 70 % identical with a sequence encoding the mature polypeptide expressed by the gidB gene of Streptococcus pneumoniae 0100993 (NCIMB 40794), encodes a polypeptide at least 70 % identical with (2) and is the complement of or contains at least 15 sequential bases of any of the above. Also claimed are: (i) vectors containing (I); (ii) host cells containing this vector; (iii) polypeptides (II) at least 70 % identical with (2); (iv) antibodies (Ab) against (II); and (v) antagonists (III) that inhibit activity or expression of (II).

USE - Cells of (ii) are used to produce recombinant (II) or its fragments, used to screen for specific binding agents that **inhibit** or activate it (in standard binding assays), in vaccines to induce an immune (antibody and/or T cell) response (optionally expressed in vivo from a gene **therapy** vector) and to raise Ab (used to identify and isolate (II)-expressing clones, for affinity purification, as **therapeutic inhibitors** and in competitive **drug** screens or diagnostic immunoassays). (II) are used to **treat** conditions that require gidB **polypeptide** while (III) are used to **treat** conditions requiring **inhibition** of gidB, particularly bacterial **infection**. Particularly **infections** caused by **S. pneumoniae** (specifically meningitis) are **treated**, but the antibacterial agents may also be used to **treat** in-dwelling devices to prevent infection, or generally for wound **treatment** to prevent adhesion of bacteria to matrix **proteins**. (II)-related diseases are diagnosed by detecting mutations in (II)-en coding nucleic acid or by determining the

amount or presence of (II). Fragments of (I) are used for genetic immunisation, as probes and primers to isolate related sequences, for diagnosis and staging of infection (in standard hybridisation and amplification assays), for establishing bacterial serotype or genotype, in **drug** screening and as **therapeutic** antisense agents. The active agents are administered at a dosage of 0.01-10 (preferably 1) mg/kg e.g. by injection, topically, orally or from wound dressings. Doses of vaccinating antigen are 0.5-5 mu g/kg, using 1-3 doses at 1-3 week intervals.
Dwg.0/0

L22 ANSWER 42 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-062659 [06] WPIDS
DOC. NO. NON-CPI: N1999-046539
DOC. NO. CPI: C1999-018841
TITLE: New isolated gidA1 polypeptide from Streptococcus pneumoniae - useful in diagnosis, treatment and prevention of bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BURNHAM, M; FEDON, J C; JAWORSKI, D D; KALLENDER, H; LENOX, A L; PALMER, L M; WANG, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 889128 | A2 | 19990107 | (199906)* | EN | 44 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2236425 | A | 19990101 | (199924) | | |
| JP 11137268 | A | 19990525 | (199931) | | 115 |
| JP 2000210093 | A | 20000802 | (200041) | | 40 |
| US 6238882 | B1 | 20010529 | (200132) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 889128 | A2 | | EP 1998-305174 | 19980630 |
| CA 2236425 | A | | CA 1998-2236425 | 19980629 |
| JP 11137268 | A | | JP 1998-223543 | 19980701 |
| JP 2000210093 | A | Div ex | JP 1998-223543 | 19980701 |
| | | | JP 2000-53626 | 19980701 |
| US 6238882 | B1 | Provisional | US 1997-51379P | 19970701 |
| | | | US 1998-104068 | 19980624 |

PRIORITY APPLN. INFO: US 1997-51379P 19970701; US 1998-104068 19980624
AN 1999-062659 [06] WPIDS
AB EP 889128 A UPAB: 19990217
New isolated polypeptide (II) comprises/is ( at least 70% identity to) sequence (2), 637 amino acids (aa) or (4) 623 aa, over their entire length and/or is encoded by a recombinant polynucleotide comprising sequence (1) 2100 bp or (3) 1871 bp (all sequences fully defined in the specification). Also claimed are: (A) an isolated

polynucleotide (I); (B) an antibody antigenic to or immunospecific for polypeptide (II); (C) a **process** for diagnosing or prognosing a (susceptibility to) disease in an individual related to expression or activity of (II); (D) a **method** for screening to identify compounds that activate or inhibit the function of (II); (E) an agonist/antagonist of the activity or expression of (II); (F) an expression system comprising (I) capable of producing (II) when present in compatible host cell; (G) a host cell comprising the above expression system/membrane expressing (II); (H) a **process** for producing (II) comprising culturing the host cell; (I) a **process** for producing the host cell comprising the expression system for (II); (J) a recombinant host cell capable of expressing (II); (K) a computer readable medium with stored sequences (1)-(4); and (L) a computer based **method** for performing homology identification.

USE - (I), its agonists or (II) are used to **treat** conditions requiring increased activity or expression of (I) (conditions not cited), while conditions (particularly bacterial infections) requiring **inhibition** of (I) are **treated** by administering an **antagonist**, **inhibitory** nucleic acid or competitive **polypeptide** e.g. **S. pneumoniae infection**, particularly meningitis and also Helicobacter pylori infections e.g. related cancers, ulcers and gastritis. These antibacterial agents may also be used to **treat** in-dwelling devices to prevent infection or generally as wound **treatments** to prevent adhesion of bacteria to matrix **proteins**.

(I)-related conditions, or susceptibility to them, can be diagnosed, staged or prognosed by (i) detecting mutations in (I)-encoding nucleic acid or (ii) by determining presence or amount of (I). (I), or cell membranes of (E), are used to screen for (II) (in any standard binding assay) and cells of (E) are used to produce recombinant (I), used (i) to raise Ab (for use in identifying/isolating (I)-expressing clones, for affinity purification, as **therapeutic** agent and in competitive **drug** screens); (ii) to identify (III) or specific receptors; (iii) in rational **drug** design and (iv) as immunogen for vaccines. (II), or its fragments, are used as antisense/ribozyme **therapeutics**; as probes and primers to isolate homologous sequences; to detect (mutant) (II); for chromosomal mapping; to determine bacterial serotype; for genetic immunisation; to screen for (III) and in rational **drug** design.

Dwg.0/0

L22 ANSWER 43 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-047880 [05] WPIDS
DOC. NO. NON-CPI: N1999-035027
DOC. NO. CPI: C1999-015230
TITLE: New Streptococcus pneumoniae Histidine Kinase polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections.
DERWENT CLASS: B04 D16 T01
INVENTOR(S): BISWAS, S; GE, J Y; HOLMES, D J; INGRAHAM, K A; JAWORSKI, D D; SHILLING, L K; THROUP, J; WALLIS, N G; WANG, M; ZALACAIN, M; GE, J; HOLMES, D; INGRAHAM, K; JAWORSKI, D; SHILLING, L; WALLIS, N
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE

BEECHAM PLC
COUNTRY COUNT: 27
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 887413 | A2 | 19981230 | (199905)* | EN | 43 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2233539 | A | 19981130 | (199920) | | |
| JP 11075878 | A | 19990323 | (199922) | | 112 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 887413 | A2 | EP 1998-304140 | 19980526 |
| CA 2233539 | A | CA 1998-2233539 | 19980528 |
| JP 11075878 | A | JP 1998-188025 | 19980529 |

PRIORITY APPLN. INFO: US 1997-48078P 19970530
AN 1999-047880 [05] WPIDS
AB EP 887413 A UPAB: 19990203
A new Histidine Kinase (HK) which is a component of the two component signal transducer system (TCSTS) is selected from: (i) an isolated polypeptide comprising an amino acid sequence having at least 70-95% identity to sequence (I), and 70-99% identity to sequence (II), fully defined 324 and 235 amino acid proteins respectively, given in the specification; (ii) an isolated polypeptide comprising HK sequence (I) or (II); (iii) an isolated polypeptide which is HK sequence (I) or (II); and (iv) a polypeptide encoded by a recombinant polynucleotide comprising sequence (III) or (IV), fully defined 1500 and 800 bp nucleic acids given in the specification. Also claimed are: (1) an isolated polynucleotide complementary or at least 70-95% identical to sequences (III) or (IV) encoding HK polypeptide (I) or (II); (2) an expression system comprising HK polynucleotide (III) or (IV); (3) a host cell comprising expression system or a membrane of (2); (4) an antibody immunospecific for the HK polypeptide; (5) an agonist or antagonist of the HK polypeptide; (6) a **method** for the treatment of an individual: (i) needing enhanced activity/expression of HK polypeptide by administering: (a) agonist of (5); or (b) HK polynucleotide of (1) in vivo; or (ii) needing to inhibit activity/expression of the HK polypeptide by administering: (a) antagonist of (5); or (b) a nucleic acid molecule which inhibits expression of the HK polynucleotide; or (c) a polypeptide which competes with the HK polypeptide for its ligand, substrate or receptor; and (7) a computer readable medium stored with data selected from: (i) HK polynucleotides (III)/(IV) or polypeptides (I)/(II); (ii) a set of polynucleotides or polypeptides, where at least one sequence is an HK polynucleotide or polypeptide; and (iii) a data set representing HK polynucleotides or polypeptides.

USE - HK polynucleotides and **polypeptides** are useful for diagnosing susceptibility to diseases by detecting mutations or polymorphisms in the HK gene or analysing for the presence or amount of HK **polypeptide** expressed in a patient sample (claimed). HK PCR probes are useful for diagnosing diseases, and can

characterise the stage and the species or strain causing the infection. HK probes can also determine the response of the infectious organism to **drugs**. HK **polypeptides** and polynucleotides are useful for screening for **antagonists**, agonists and **drugs** against infectious micro-organisms. HK agonists and **antagonists** are bacteriostatic and bacteriocidal compounds which can be used in **treatment** to enhance (agonist) or block (**antagonist** or antisense sequence) HK activity, therefore **treating** bacterial **infections**, especially **infections** caused by **Streptococcus pneumoniae**. Epitopes of HK **polypeptides** and polynucleotides are useful immunogens for producing anti-HK antibodies for prevention of bacterial infections, and HK polynucleotides can be used in genetic immunisation (gene **therapy**) to prevent infections. HK **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection. HK **polypeptides** and polynucleotides may also be used as reagents for differential screening **methods** e.g. using probes in RT-PCR to identify and quantify genes expressed in bacterial tissue. HK **polypeptides** are useful for mapping the genes to chromosomes, allowing gene inheritance to be studied through linkage analysis. The computer based **method** (7) is useful for performing homology identification by comparing a polynucleotide with HK sequences (7), and is also useful for polynucleotide assembly, by screening for overlapping sequences between a polynucleotide and HK polynucleotides (III) or (IV) (claimed).

L22 ANSWER 44 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-047878 [05] WPIDS
DOC. NO. NON-CPI: N1999-035025
DOC. NO. CPI: C1999-015228
TITLE: New Streptococcus pneumoniae N-acetylglucosamine-1-phosphate uridyltransferase (GlmU) polypeptides and polynucleotides - useful as diagnostic reagents and for prevention and treatment of Streptococcal and Heliobacter pylori infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): DEBOUCK, C M; JAWORSKI, D D; MOONEY, J L; SHILLING, L K; WALLIS, N G; WANG, M; ZHONG, Y Y; DEBOUCK, C
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 887411 | A2 | 19981230 | (199905)* | EN | 29 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2235778 | A | 19981226 | (199923) | | |
| JP 11155582 | A | 19990615 | (199934) | | 62 |
| US 6043071 | A | 20000328 | (200023) | | |
| US 6204042 | B1 | 20010320 | (200118) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 887411 | A2 | | EP 1998-304819 | 19980618 |
| CA 2235778 | A | | CA 1998-2235778 | 19980625 |
| JP 11155582 | A | | JP 1998-218453 | 19980625 |
| US 6043071 | A | Provisional | US 1997-50996P | 19970626 |
| | | | US 1997-971782 | 19971117 |
| US 6204042 | B1 | Provisional | US 1997-50996P | 19970626 |
| | | Div ex | US 1997-971782 | 19971117 |
| | | | US 1999-309026 | 19990510 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| US 6204042 | B1 | Div ex | US 6043071 |

PRIORITY APPLN. INFO: US 1997-971782 19971117; US 1997-50996P 19970626; US 1999-309026 19990510

AN 1999-047878 [05] WPIDS

AB EP 887411 A UPAB: 19990203

An N-acetylglucosamine-1-phosphate uridyltransferase (GlmU) polypeptide comprising an amino acid sequence at least 70% identical to sequence (I), a fully defined 459 amino acid protein given in the specification is new. Also claimed are: (1) an isolated polynucleotide (II) (DNA or RNA)comprising a polynucleotide with at least 70% identity to a nucleotide sequence encoding (I); (2) a vector comprising polynucleotide (II); (3) a host cell comprising the vector; (4) an antibody immunospecific for GlmU polypeptide (I); (5) an antagonist of GlmU polypeptide (I); and (6) an isolated polynucleotide (IV) comprising a polynucleotide with at least 70% identity to sequence encoding polypeptide (III), a fully defined 380 amino acid protein given in the specification.

USE - GlmU **polypeptides** and polynucleotides are useful for diagnosing diseases related to over or underexpression of the GlmU **protein** by identifying mutations in the GlmU gene, or analysing for the presence or amount of GlmU **polypeptide** in an individual, due to an infection of an organism with the GlmU gene (claimed), preferably humans infected with Streptococcus pneumoniae. GlmU **polypeptides** are also useful for screening for compounds which affect activity of the **protein** (claimed). These can be used for **treatment** to **inhibit** (**antagonist** i.e. antibacterial **drugs**) or enhance (agonist or GlmU **polypeptide**) GlmU activity (claimed), and are useful for **treating** microbial **infections**, especially **Streptococcus pneumoniae infections** which cause otitis media, conjunctivitis, pneumonia, bacteremia, meningitis, sinusitis, pleural empyema and endocarditis, and Heliobacter pylori induced cancers and infections, and can cure gastric ulcers and gastritis. GlmU **polypeptide** epitopes (administered directly, in a vector or as a vaccine) are useful for inoculating against infections by inducing a T cell and/or antibody response to protect against disease (claimed), especially against Streptococcus pneumoniae bacteria. Antibodies can also be administered to immunise and protect against disease. GlmU **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of

bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection.

L22 ANSWER 45 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-037019 [04] WPIDS
DOC. NO. NON-CPI: N1999-027917
DOC. NO. CPI: C1999-011265
TITLE: New Streptococcus pneumoniae response regulator polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of Streptococcus pneumoniae infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BISWAS, S; THROUP, J; WALLIS, N G; ZALACAIN, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 885902 | A2 | 19981223 | (199904)* | EN | 43 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2235442 | A | 19981220 | (199923) | | |
| JP 11137262 | A | 19990525 | (199931) | | 36 |
| US 6140061 | A | 20001031 | (200057) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 885902 | A2 | | EP 1998-304775 | 19980617 |
| CA 2235442 | A | | CA 1998-2235442 | 19980618 |
| JP 11137262 | A | | JP 1998-210190 | 19980618 |
| US 6140061 | A | Provisional | US 1997-50332P | 19970620 |
| | | | US 1998-94103 | 19980609 |

PRIORITY APPLN. INFO: US 1997-50332P 19970620; US 1998-94103 19980609
AN 1999-037019 [04] WPIDS
AB EP 885902 A UPAB: 19990127
A new response regulator (RR) polypeptide which is a component of the two component signal transducer system (TCSTS) is selected from: (i) an isolated polypeptide comprising an amino acid sequence having at least 70-95% identity to sequence (I), and 70-99% identity to sequence (II), fully defined 232 and 208 amino acid proteins respectively, given in the specification; (ii) an isolated polypeptide comprising RR sequence (I) or (II); (iii) an isolated polypeptide which is RR sequence (I) or (II); and (iv) a polypeptide encoded by a recombinant polynucleotide comprising sequence (III) or (IV), fully defined 1172 and 1100 bp nucleic acids respectively, given in the specification. Also claimed are: (1) an isolated polynucleotide complementary or at least 70-95% identical to sequences (III) or (IV) encoding RR polypeptide (I) or (II); (2) an expression system comprising RR polynucleotide (III) or (IV); (3) a host cell comprising expression system or a membrane of (2); (4) an antibody immunospecific for the RR polypeptide; (5) an agonist or

antagonist of the RR polypeptide; (6) a **method** for the treatment of an individual: (i) needing enhanced activity/expression of RR polypeptide by administering: (a) agonist (5); or (b) RR polynucleotide (1) in vivo; or (ii) needing to inhibit activity/expression of the RR polypeptide by administering (a) antagonist (5); or (b) a nucleic acid molecule which inhibits expression of the RR polynucleotide; or (c) a polypeptide which competes with the RR polypeptide for its ligand, substrate or receptor; and (7) a computer readable medium stored with data selected from: (i) RR polynucleotides (III)/(IV) or polypeptides (I)/(II); (ii) a set of polynucleotides or polypeptides, where at least one sequence is an RR polynucleotide or polypeptide; and (iii) a data set representing RR polynucleotides or polypeptides.

USE - RR polynucleotides and **polypeptides** are useful for diagnosing susceptibility to diseases by detecting mutations or polymorphisms in the RR gene or analysing for the presence or amount of RR **polypeptide** expressed in a patient sample (claimed). RR PCR probes are useful for diagnosing diseases, and can characterise the stage and the species or strain causing the infection. The RR probes can also determine the response of the infectious organism to **drugs**. RR **polypeptides** and polynucleotides are useful for screening for **antagonists**, agonists and **drugs** against infectious micro-organisms. RR agonists and **antagonists** are bacteriostatic and bacteriocidal compounds which can be used in **treatment** to enhance (agonist) or block (**antagonist** or antisense sequence) RR activity, therefore **treating** bacterial **infections**, especially **infections** caused by **Streptococcus pneumoniae**. Epitopes of RR **polypeptides** and polynucleotides are useful immunogens for producing anti-RR antibodies for prevention of bacterial infections, and RR polynucleotides can be used in genetic immunisation (gene **therapy**) to prevent infections. RR **polypeptides**, polynucleotides and their (ant)agonists can prevent adhesion of bacteria to matrix **proteins**, and are useful for use on wounds and body implants to prevent bacterial infection. RR **polypeptides** and polynucleotides may also be used as reagents for differential screening **methods** e.g. using probes in RT-PCR to identify and quantify genes expressed in bacterial tissue. RR **polypeptides** are useful for mapping genes to chromosomes, allowing gene inheritance to be studied through linkage analysis. The computer based **method** (7) is useful for performing homology identification by comparing a polynucleotide with RR sequences (7), and is also useful for polynucleotide assembly, by screening for overlapping sequences between a polynucleotide and RR polynucleotides (6) (claimed).

L22 ANSWER 46 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-011652 [02] WPIDS
DOC. NO. NON-CPI: N1999-008769
DOC. NO. CPI: C1999-004013
TITLE: New isolated nucleic acid encoding rnc protein of Streptococcus pneumoniae - and related vectors, transformants, antibodies, proteins, and antagonists, for treatment, prevention and diagnosis of infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): LONETTO, M; ROSENBERG, M; LONETTO, M A

PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 882796 | A2 | 19981209 | (199902)* | EN | 22 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| US 5866365 | A | 19990202 | (199912) | | |
| CA 2233591 | A | 19981205 | (199920) | | |
| JP 11103870 | A | 19990420 | (199926) | | 55 |
| US 6251630 | B1 | 20010626 | (200138) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| EP 882796 | A2 | EP 1998-304320 | 19980601 |
| US 5866365 | A | US 1997-869674 | 19970605 |
| CA 2233591 | A | CA 1998-2233591 | 19980602 |
| JP 11103870 | A | JP 1998-193551 | 19980603 |
| US 6251630 | B1 Div ex | US 1997-869674 | 19970605 |
| | | US 1998-213010 | 19981216 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| US 6251630 | B1 Div ex | US 5866365 |

PRIORITY APPLN. INFO: US 1997-869674 19970605; US 1998-213010 19981216
AN 1999-011652 [02] WPIDS
AB EP 882796 A UPAB: 19990113
New isolated nucleic acid (I) is claimed which has (a) has at least 70% identity with a sequence encoding a 232 amino acid (aa) polypeptide (2), given in the specification, or with a sequence at least 70% identical with a sequence encoding the mature polypeptide for the rnc protein (a ribonuclease III family member) of Streptococcus pneumoniae 0100993 (NCIMB 40794); (b) encodes a polypeptide (2a) at least 70% identical with (2); (c) is the complement of (a) or (b); or (d) includes at least 15 sequential bases from (a) or (b).

Also new are (A) vectors containing (I); (B) host cells containing such vectors; (C) polypeptide (II) at least 70% identical with (2); (D) antibodies (Ab) against (II) and (E) antagonists of (II).

USE - Cells of (B) are used to express (II) which is useful therapeutically; to screen for compounds that interact with, and activate or inhibit, it (potential antibacterial agents) and to generate Ab (including as vaccines to provide a protective response, and in this case (II) may be expressed in vivo from (I)).

(II) and its agonists are used to **treat** conditions where rnc **polypeptide** is required (no examples) and the **antagonists** where rnc **polypeptide** needs to be **inhibited**, particularly a wide range of **infections**

caused by **S. pneumoniae**, most particularly meningitis. (II) also **inhibit** adhesion of bacteria to extracellular matrix **proteins**, in-dwelling devices and wound surfaces.

Diseases associated with expression of (II) are diagnosed (a) by analysing a sample for presence of (II) or (b) by detecting nucleic acid encoding (II).

Ab are useful as antibacterial agents; to isolate or identify (II)-expressing clones and for affinity purification.

Fragments of (I) are useful as probes or primers to isolate full-length or related sequences; to screen for **drugs**, and to diagnose or stage infections, also for genotyping and serotyping of infective agents (e.g. by detecting mutations).

Therapeutic agents are administered by injection, topically, orally etc., generally at 0.01-10, usually about 1, mg/kg. To inhibit bacterial adhesion, a solution containing 0.001-10 mg/ml is applied to the catheter or other surface to be treated, and vaccines are administered at 0.5-5 mu g/kg, 1-3 times at 1-3 week intervals. Dwg.0/0

L22 ANSWER 47 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-001398 [01] WPIDS
DOC. NO. NON-CPI: N1999-001241
DOC. NO. CPI: C1999-000468
TITLE: New Streptococcus pneumoniae peptide releasing factor polypeptide and polynucleotide - useful as diagnostic reagents and for prevention and treatment of diseases caused by bacterial infections, including meningitis and pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): PEARSON, S C
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP
COUNTRY COUNT: 28
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 881292 | A2 | 19981202 | (199901)* | EN | 27 |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| CA 2233561 | A | 19981129 | (199920) | | |
| JP 11123087 | A | 19990511 | (199929) | | 61 |
| US 5919664 | A | 19990706 | (199933) | | |
| US 6372487 | B1 | 20020416 | (200232) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 881292 | A2 | | EP 1998-304157 | 19980526 |
| CA 2233561 | A | | CA 1998-2233561 | 19980527 |
| JP 11123087 | A | | JP 1998-188019 | 19980529 |
| US 5919664 | A | | US 1997-865311 | 19970529 |
| US 6372487 | B1 | Div ex | US 1997-865311 | 19970529 |
| | | | US 1999-315720 | 19990520 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| US 6372487 | B1 Div ex | US 5919664 |

PRIORITY APPLN. INFO: US 1997-865311 19970529; US 1999-315720 19990520

AN 1999-001398 [01] WPIDS

AB EP 881292 A UPAB: 19990113

A Streptococcus pneumoniae peptide releasing factor (prfC) polypeptide comprising an amino acid sequence which is least 70% identical to sequence (I), a fully defined 515 amino acid protein given in the specification is new. Also claimed are: an isolated polynucleotide (II) (DNA or RNA) selected from a polynucleotide sequence which: (a) encodes above prfC polypeptide; (b) has at least 70% identity to a polynucleotide encoding prfC polypeptide (I); (c) has at least 70% identity to the prfC gene of Streptococcus pneumoniae 0100993 strain; (d) is complementary to (a), (b) or (c); and (e) comprises at least 15 sequential bases of polynucleotide (I); (2) a vector comprising prfC polynucleotides; (3) a host cell comprising vector of (2); (4) an antibody immunospecific for prfC polypeptides; (5) an antagonist of prfC polypeptides; and (6) a **method** for identifying compounds which interact and inhibit or activate prfC polypeptides.

USE - PrfC **polypeptides** and polynucleotides are useful for diagnosing susceptibility to diseases by detecting mutations or polymorphisms of the prfC gene. PCR using prfC probes is useful for diagnosing diseases caused by organisms comprising the prfC gene by detection at the nucleic acid level, and analysing for the presence or amount of prfC **polypeptide** (I) (claimed) in cell or tissue samples. This **method** is useful for diagnosing the stage of infection and the type of pathogen. PrfC **polypeptides** and polynucleotides can be used to screen for **antagonists** (claimed) and agonists (especially bacteriostatic and bacteriocidal compounds), which can be used in **treatment** to enhance (**polypeptide** (I)) or block ( **antagonist**) prfC activity (claimed). **Polypeptide** (I) is useful for screening for antibacterial compounds which can be used as **drugs**. PrfC polynucleotides can be used in genetic immunisation (gene **therapy**) to protect against bacterial infections. An immunological response can be induced by administering prfC **polypeptide** (I) or an antigenic fragment i.e. a vaccine, or nucleic acid vectors which direct expression of prfC **protein** or **protein** fragment in vivo, to induce an antibody and/or T cell immune response to protect against disease (claimed). This **method** is especially useful for preventing bacterial **infections** (especially **Streptococcus pneumoniae**) caused by surgical implants e.g. pacemakers, and the implant may also be bathed in prfC **polypeptide** (I) prior to insertion. PrfC **polypeptides**, polynucleotides and **antagonists** may be used as a wound **treatment** to prevent adhesion of bacteria to matrix **proteins**, as they **interfere** with the physical interaction between the pathogen and mammalian host. PrfC antibodies are also useful for inducing an immune response to immunise and prevent disease, and for isolating prfC clones or purifying the **peptide** by affinity chromatography. Diseases diagnosed, prevented or **treated** include: otits media, conjunctivitis, pneumonia, bacteremia,

sinusitis, pleural empyema, endocarditis and especially meningitis.

L22 ANSWER 48 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1997-549678 [50] WPIDS
DOC. NO. CPI: C1997-175317
TITLE: Response regulator or histidine kinase of Streptococcus pneumoniae NCIMB 40794 - useful for treatment, prevention, and diagnosis of infection, especially meningitis.
DERWENT CLASS: B04 D16
INVENTOR(S): WALLIS, N G
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 9741146 | A1 | 19971106 | (199750)* | EN | 47 |
| RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP US | | | | | |
| EP 954525 | A1 | 19991110 | (199952) | EN | |
| R: BE CH DE DK FR GB IT LI NL | | | | | |
| JP 2000509984 | W | 20000808 | (200043) | | 57 |
| US 6217861 | B1 | 20010417 | (200123) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| WO 9741146 | A1 | | WO 1997-US7375 | 19970501 |
| EP 954525 | A1 | | EP 1997-926395 | 19970501 |
| | | | WO 1997-US7375 | 19970501 |
| JP 2000509984 | W | | JP 1997-539234 | 19970501 |
| | | | WO 1997-US7375 | 19970501 |
| US 6217861 | B1 | Div ex | US 1997-850116 | 19970501 |
| | | | US 1999-342461 | 19990629 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| EP 954525 | A1 | Based on | WO 9741146 |
| JP 2000509984 | W | Based on | WO 9741146 |

PRIORITY APPLN. INFO: GB 1996-9122 19960501; GB 1996-9023 19960501
AN 1997-549678 [50] WPIDS
AB WO 9741146 A UPAB: 19971217
A novel nucleic acid sequence (I) is selected from: (a) a polynucleotide with at least 70% identity with a sequence encoding 217, 117 or 174 amino acid (aa) sequences given in the specification, or is their complement; (b) has at least 70% identity with a sequence encoding the same mature polypeptide as that expressed by the response regulator (RR) or histidine kinase (HK) gene of Streptococcus pneumoniae 0100993 (NCIMB 40794) or (c) contains at least 15 sequential bases of (a) or (b). Also new are: (1) a vector containing (I); (2) a host cell containing the vector

of (1); (3) a polypeptide (A) at least 70% identical to the 217, 117 or 174 aa sequences; (4) an antibody (Ab) against (A); (5) an antagonist (B) that inhibits the activity or expression of (A); (6) a **method** for the diagnosis of a disease related to the expression or activity of (A), by determining the sequence of the nucleic acid encoding it or analysing for the presence or amount of (A); and (7) a **method** for identifying compounds that interact with, and inhibit or activate, (A).

USE - (I) is used to produce recombinant (A) or their fragments. (A) is used to **treat** conditions requiring the RR or HK **polypeptide**, while conditions requiring **inhibition** of RR or HK are **treated** with (B), particularly those that are antibacterial, preferably for **treating S. pneumoniae infection**, specifically meningitis (all claimed). (I) can also be used as a probe or primer to isolate related nucleic acid sequences (e.g. full-length clones), for diagnosis or staging of infection, to detect mutations and polymorphisms in the RR gene, to identify S. pneumoniae, to develop antibacterials and to express antisense nucleic acids. (I), or its fragments encoding non-variable regions of a bacterial cell surface **protein**, can be used in animal models of infection to determine immunologically active epitopes for subsequent production of **therapeutic** monoclonal antibodies. (A) are also used to identify (B) and to generate Ab (useful as (B) or as immunoassay reagents). (I), (A), and (B) may al so be used to **inhibit** adhesion of bacteria to extracellular matrix in/on e.g. wound surfaces or in-dwelling devices such as prostheses (which can be soaked in a solution of (B) before implanting).

Dwg.0/0

L22 ANSWER 49 OF 49 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1997-526211 [48] WPIDS
DOC. NO. CPI: C1997-167367
TITLE: New isolated nucleic acid encoding glutamyl tRNA synthetase of Streptococcus pneumoniae - useful for diagnosis, treatment and prevention of bacterial infections, especially meningitis.
DERWENT CLASS: B04 D16
INVENTOR(S): LAWLOR, E J; JAWORSKI, D D; WANG, M
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM CORP; (SMIK) SMITHKLINE BEECHAM PLC; (JAWO-I) JAWORSKI D D; (LAWL-I) LAWLOR E J; (WANG-I) WANG M
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 9738718 | A1 | 19971023 | (199748)* | EN | 42 |
| RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP US | | | | | |
| EP 904103 | A1 | 19990331 | (199917) | EN | |
| R: BE CH DE DK FR GB IT LI NL | | | | | |
| JP 2000509261 | W | 20000725 | (200041) | | 50 |
| US 6165760 | A | 20001226 | (200103) | | |
| US 6300119 | B1 | 20011009 | (200162) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| WO 9738718 | A1 | | WO 1997-US6753 | 19970418 |
| EP 904103 | A1 | | EP 1997-918782 | 19970418 |
| | | | WO 1997-US6753 | 19970418 |
| JP 2000509261 | W | | JP 1997-537438 | 19970418 |
| | | | WO 1997-US6753 | 19970418 |
| US 6165760 | A | CIP of | US 1997-844153 | 19970418 |
| | | Div ex | US 1997-962203 | 19971031 |
| | | | US 1999-282125 | 19990331 |
| US 6300119 | B1 | CIP of | US 1997-844153 | 19970418 |
| | | Div ex | US 1997-962203 | 19971031 |
| | | | US 1999-273142 | 19990319 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| EP 904103 | A1 | Based on | WO 9738718 |
| JP 2000509261 | W | Based on | WO 9738718 |
| US 6165760 | A | CIP of | US 5958734 |
| | | Div ex | US 5976840 |
| US 6300119 | B1 | CIP of | US 5958734 |
| | | Div ex | US 5976840 |

PRIORITY APPLN. INFO: GB 1996-7992 19960418
AN 1997-526211 [48] WPIDS
AB WO 9738718 A UPAB: 19971209
New isolated nucleic acid (I) is defined as follows: (a) has at least 70% identity to sequences encoding peptides (2), (4) or (6) of 348,126 and 62 amino acids (aa), respectively, reproduced in the specification; (b) is the complement of (a); (c) has at least 70% identity to a sequence encoding the same mature polypeptide expressed by the gluS gene (encoding glutamyl tRNA synthetase) in Streptococcus pneumoniae 0100993 (NCIMB 40794); (d) includes at least 15 sequential bases of (a)-(c). Also new are : (i) vectors containing (I); (ii) host cells containing this vector; (iii) polypeptides (II) at least 70% identical with (2), (4) or (6); (iv) antibodies (Ab) against (II); (v) antagonists (III) of the activity or expression of (II); (vi) diagnosis of disease related to expression/activity of (II) by sequencing (I) and/or analysing for presence or concentration of (II); (vii) **method** for identifying compounds (IV) that interact with, and inhibit or activate, (II).

USE - (I) are used to express recombinant (II), i.e. the gluS **polypeptide** or their fragments, which are used to **treat** conditions that require gluS activity, also as antisense sequences to control expression of (II). (II), or vectors that express them, are used to induce an immune (antibody and/or T cell) response, specifically for protection against **S. pneumoniae infection** or to screen for (ant)agonists of (I)/(II) activity, particularly antibacterials. (III), e.g. Ab, are used to **treat** conditions requiring **inhibition** of gluS, generally any **S. pneumoniae infection** but particularly meningitis. Fragments of (I) are useful as probes to isolate full-length or related sequences, or for diagnosis, e.g. by polymerase chain

reaction, of the stage and type of an infection, including detection of mutations and polymorphisms. Diagnosis may also be done by detecting overexpression of the gluS genes, e.g. by immunoassay. Ab are used to **treat** infections; to isolate/identify (II)-expressing clones; to purify (II) and as immunoassay reagents. More generally, (I)-(III) can prevent adhesion of bacteria to wounds, in-dwelling devices etc.; block gluS-**protein** mediated invasion of mammalian cells and block normal progression of infection. **Treatment** of in-dwelling devices with (II) before insertion is also contemplated.
Dwg.0/0

FILE 'USPATFULL' ENTERED AT 15:11:29 ON 31 JUL 2002

L10 602 SEA FILE=HCAPLUS ABB=ON PLU=ON ((STREPTOCOCC? OR S)(W)PNEUMON?)(5A)INFECTION
L15 176 SEA FILE=HCAPLUS ABB=ON PLU=ON L10(S)(TREAT? OR THERAP? OR PROPHYL?)
L16 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L15(S)(PROTEIN OR POLYPROTEIN OR PEPTIDE OR POLYPEPTIDE)
L17 206 SEA L16
L23 3 SEA FILE=USPATFULL ABB=ON PLU=ON L17(S)(INHIBIT? OR ANTAGON? OR INTERFER?)

L23 ANSWER 1 OF 3 USPATFULL

ACCESSION NUMBER: 2002:164767 USPATFULL
TITLE: Novel era
INVENTOR(S): Black, Michael Terence, Chester Springs, PA, UNITED STATES
Hodgson, John Edward, Malvern, PA, UNITED STATES
Knowles, David Justin Charles, Boroughbridge, UNITED KINGDOM
Lonetto, Michael Arthur, Collegeville, PA, UNITED STATES
Nicholas, Richard Oakley, Collegeville, PA, UNITED STATES
Palmer, Leslie Marie, Audubon, PA, UNITED STATES
Reid, Robert, East Norriton, PA, UNITED STATES
Rosenberg, Martin, Royersford, PA, UNITED STATES
Zarfos, Phillip, Norristown, PA, UNITED STATES

| | NUMBER | KIND | DATE |
|---|---|---|---|
| PATENT INFORMATION: | US 2002086385 | A1 | 20020704 |
| APPLICATION INFO.: | US 2001-820407 | A1 | 20010329 (9) |

RELATED APPLN. INFO.: Division of Ser. No. US 1997-965130, filed on 6 Nov 1997, GRANTED, Pat. No. US 6287803

| | NUMBER | DATE |
|---|---|---|
| PRIORITY INFORMATION: | US 1996-31879P | 19961127 (60) |

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: DECHERT, ATTN: ALLEN BLOOM, ESQ, 4000 BELL ATLANTIC TOWER, 1717 ARCH STREET, PHILADELPHIA, PA, 19103
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
LINE COUNT: 1608

Searcher : Shears 308-4994

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides era polypeptides and DNA (RNA) encoding era polypeptides and methods for producing such polypeptides by recombinant techniques. Also provided are methods for utilizing era polypeptides to screen for antibacterial compounds.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

INCL INCLM: 435/183.000
INCLS: 435/069.100; 435/252.300; 435/320.100; 536/023.200
NCL NCLM: 435/183.000
NCLS: 435/069.100; 435/252.300; 435/320.100; 536/023.200

L23 ANSWER 2 OF 3 USPATFULL

ACCESSION NUMBER: 2002:137146 USPATFULL
TITLE: Antibodies to neutrokine-alpha
INVENTOR(S): Yu, Guo-Liang, Berkeley, CA, United States
Ebner, Reinhard, Gaithersburg, MD, United States
Ni, Jian, Rockville, MD, United States
Rosen, Craig A., Laytonsville, MD, United States
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|---|---|---|---|
| PATENT INFORMATION: | US 6403770 | B1 | 20020611 |
| APPLICATION INFO.: | US 2000-589287 | | 20000608 (9) |

RELATED APPLN. INFO.: Continuation of Ser. No. US 2000-507968, filed on 22 Feb 2000 Continuation-in-part of Ser. No. US 1999-255794, filed on 23 Feb 1999 Continuation-in-part of Ser. No. US 1998-5874, filed on 12 Jan 1998 Continuation-in-part of Ser. No. WO 1996-US17957, filed on 25 Oct 1996

| | NUMBER | DATE |
|---|---|---|
| PRIORITY INFORMATION: | US 2000-176015P | 20000114 (60) |
| | US 1999-171626P | 19991223 (60) |
| | US 1999-171108P | 19991216 (60) |
| | US 1999-168624P | 19991203 (60) |
| | US 1999-167239P | 19991124 (60) |
| | US 1999-145824P | 19990727 (60) |
| | US 1999-142659P | 19990706 (60) |
| | US 1999-136784P | 19990528 (60) |
| | US 1999-131673P | 19990429 (60) |
| | US 1999-131278P | 19990427 (60) |
| | US 1999-130696P | 19990423 (60) |
| | US 1999-130412P | 19990416 (60) |
| | US 1999-127598P | 19990402 (60) |
| | US 1999-126599P | 19990326 (60) |
| | US 1999-124097P | 19990312 (60) |
| | US 1999-122388P | 19990302 (60) |
| | US 1997-36100P | 19970114 (60) |

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Kunz, Gary L.
ASSISTANT EXAMINER: Prasad, Sarada C
LEGAL REPRESENTATIVE: Human Genome Sciences, Inc.
NUMBER OF CLAIMS: 292

Searcher : Shears 308-4994

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 22 Drawing Page(s)
LINE COUNT: 15430
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a novel Neutrokine-alpha, and a splice variant thereof designated Neutrokine-alphaSV, polynucleotides and polypeptides which are members of the TNF family. In particular, isolated nucleic acid molecules are provided encoding the human Neutrokine-alpha and/or Neutrokine-alphaSV polypeptides, including soluble forms of the extracellular domain. Neutrokine-alpha and/or Neutrokine-alphaSV polypeptides are also provided as are vectors, host cells and recombinant methods for producing the same. The invention further relates to screening methods for identifying agonists and antagonists of Neutrokine-alpha and/or Neutrokine-alphaSV activity. Also provided are diagnostic methods for detecting immune system-related disorders and therapeutic methods for treating immune system-related disorders.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 530/387.300
INCLS: 530/300.000; 530/324.000; 530/388.100; 530/388.230; 530/351.000; 435/069.500; 435/007.100
NCL NCLM: 530/387.300
NCLS: 435/007.100; 435/069.500; 530/300.000; 530/324.000; 530/351.000; 530/388.100; 530/388.230

L23 ANSWER 3 OF 3 USPATFULL
ACCESSION NUMBER: 2002:126317 USPATFULL
TITLE: Human tumor necrosis factor delta and epsilon
INVENTOR(S): Yu, Guo-Liang, Berkeley, CA, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Gentz, Reiner L., Rockville, MD, UNITED STATES
Dillon, Patrick J., Carlsbad, CA, UNITED STATES
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)

| | NUMBER | KIND | DATE |
|---|---|---|---|
| PATENT INFORMATION: | US 2002064829 | A1 | 20020530 |
| APPLICATION INFO.: | US 2001-879919 | A1 | 20010614 (9) |

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-815783, filed on 12 Mar 1997, PENDING

| | NUMBER | DATE |
|---|---|---|
| PRIORITY INFORMATION: | US 1996-16812P | 19960314 (60) |
| | US 2001-293499P | 20010525 (60) |
| | US 2001-277978P | 20010323 (60) |
| | US 2001-276248P | 20010316 (60) |
| | US 2000-254875P | 20001213 (60) |
| | US 2000-241952P | 20001023 (60) |
| | US 2000-211537P | 20000615 (60) |

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
NUMBER OF CLAIMS: 62

Searcher : Shears 308-4994

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Page(s)
LINE COUNT: 13531
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to human TNF delta and TNF epsilon polypeptides, polynucleotides encoding the polypeptides, methods for producing the polypeptides, in particular by expressing the polynucleotides, and agonists and antagonists of the polypeptides. The invention further relates to methods for utilizing such polynucleotides, polypeptides, agonists and antagonists for applications, which relate, in part, to research, diagnostic and clinical arts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.100
INCLS: 435/325.000; 435/320.100; 530/351.000; 424/145.100; 530/388.230; 536/023.500
NCL NCLM: 435/069.100
NCLS: 435/325.000; 435/320.100; 530/351.000; 424/145.100; 530/388.230; 536/023.500

FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, USPATFULL' ENTERED AT 15:12:52 ON 31 JUL 2002)
L25 2953 S GILBERT C?/AU
L26 61 S HANSBRO P?/AU
L27 2 S L25 AND L26
L28 4 S (L25 OR L26) AND L15
L29 4 S L27 OR L28
L30 3 DUP REM L29 (1 DUPLICATE REMOVED)

Author (s)

L30 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 2000:98775 HCAPLUS
DOCUMENT NUMBER: 132:162046
TITLE: Sequences of Streptococcus pneumoniae proteins and nucleic acid molecules, and uses thereof in in drug screening, diagnostic, and therapeutic applications
INVENTOR(S): **Gilbert, Christophe Francois Guy; Hansbro, Philip Michael**
PATENT ASSIGNEE(S): Microbial Technics Limited, UK
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000006737 | A2 | 20000210 | WO 1999-GB2451 | 19990727 |
| WO 2000006737 | A3 | 20000629 | | |
| W: CN, JP, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 1100921 | A2 | 20010523 | EP 1999-934989 | 19990727 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

PRIORITY APPLN. INFO.: GB 1998-16337 A 19980727

US 1999-125164P P 19990319
WO 1999-GB2451 W 19990727

AB The invention provides sequences of novel protein antigens from type 4 Streptococcus pneumoniae. The invention also provides for the use of the disclosed nucleic acids/proteins as antigens/immunogens, in the diagnosis of Streptococcus infections, and in screening for potential antimicrobial agents.

L30 ANSWER 2 OF 3 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-656168 [63] WPIDS
CROSS REFERENCE: 2001-451553 [48]
DOC. NO. NON-CPI: N2000-486434
DOC. NO. CPI: C2000-198585
TITLE: Novel antigens from Streptococcus pneumoniae of specific molecular weights useful for **treatment**, **prophylaxis** and diagnosis of **Streptococcus pneumoniae infections**.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CRIPPS, A W; **HANSBRO, P M**; JOMAA, M; KYD, J M; WELLS, J M
PATENT ASSIGNEE(S): (PROV-N) PROVALIS UK LTD
COUNTRY COUNT: 22
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000058475 | A2 | 20001005 | (200063)* | EN | 45 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: CN JP US | | | | | |
| EP 1165795 | A2 | 20020102 | (200209) | EN | |
| R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE | | | | | |
| CN 1345375 | A | 20020417 | (200248) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000058475 | A2 | WO 2000-GB1167 | 20000327 |
| EP 1165795 | A2 | EP 2000-912834 | 20000327 |
| | | WO 2000-GB1167 | 20000327 |
| CN 1345375 | A | CN 2000-805589 | 20000327 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| EP 1165795 | A2 | Based on | WO 200058475 |

PRIORITY APPLN. INFO: GB 1999-28678 19991203; GB 1999-7114 19990326
AN 2000-656168 [63] WPIDS
CR 2001-451553 [48]
AB WO 200058475 A UPAB: 20020730
NOVELTY - A protein or polypeptide (I) obtained from Streptococcus pneumoniae and having specific molecular weight as determined by sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and specific N-terminal sequences, is new.

DETAILED DESCRIPTION - A protein or polypeptide (I) obtained from Streptococcus pneumoniae and having specific molecular weight as determined by sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and specific N-terminal sequences, is new. (I) has a molecular weight of 55, 50, 85, 38, 30, 32, 43 or 100 kDa, and has an N-terminal sequence of ValGluProLysAlaLysProAlaAspProSerValVal, AsnAspArgLeuValAlaThrGlnSerAlaAspGlyArgAsnGluSerValLeuMetSerIleGluThr, GluAspThrThrAsnSerArgPheGlySerGlnPheAspLysTyrArgGlnProAsnAlaGlnProAspHisSerHisAspAlaValSerAlaAspAsnSerThrAlaHisAsnArgPheGlyTyrGlyPheAlaIleGlySerLysTyrIleArgTyr, AspLysTyrArgGlnProAsnAlaGluProAspAspHisHisTyrAlaVal, AspAlaValSerAlaAsp or SerGluThrAsnValTyr, AspLysValAspGluLeuSerAlaLysProAspIleLeuLysPro, GluLeuLysGluGluGly(Trp)ValValLys, and GluValHisAla, respectively. Alternatively, (I) has a molecular weight of less than 14 kDa as determined by SDS-PAGE, and an N-terminal sequence of MetLysLeuAsnGluValLysGluPheValLysGluLeuArgAlaGluThr, AlaLysTyrGluIleLeuTyrIleGluArgProAsnIleGluGluPheAlaLys or Ile(Arg)LeuThrArgMet(Glu)GlyGlyLysLysLysPro(Lys)PheTyrTyr, or has a molecular weight of 16, 27.5, 44 or 12-14 kDa which have a N-terminal sequence of ValMetThrAspProIleAlaAspXLeuXArgIle, (ValAla)(LysGlu)LeuValPheAlaArgHisGlyGlu(LeuThr)Glu(AsnLys), IleIleThrAspValTyrAlaArgGluValLeuAspSerArgGlyAsnProThrLeu, and AlaLeuAsnIleGluAsnIleIleAlaGluIleLysIleAlaSer, respectively. (I) is a reduced toxicity variant or fragment of the above mentioned proteins, preferably has a molecular weight of 16 or 57 kDa under reducing conditions and has the following N-terminal sequence of ArgIleIleLysPheValTyrAlaLys.

INDEPENDENT CLAIMS are also included for the following:

(1) a homologue or derivative (II) of (I);

(2) one or more antigenic fragments (III) of (I) or (II);

(3) a nucleic acid molecule (IV) comprising or consisting of a DNA sequence encoding for (I) or their RNA equivalents, a sequence which is complementary or substantially identical to the sequence, or a sequence which codes for (II) or (III);

(4) a vector (V) comprising (IV);

(5) a host cell (VI) comprising (V);

(6) an immunogenic/antigenic composition (VII) comprising (I), (II) or (III);

(7) a vaccine composition (VIII) comprising (IV);

(8) an antibody (IX) raised against and/or binding to (I), (II) or (III);

(9) a kit for detecting/diagnosing S. pneumoniae infection comprising (I), (II), (III) or (VII);

(10) a kit for detecting/diagnosing S. pneumoniae infection comprising (IV);

(11) determining if (I) represents a potential anti-microbial target involves inactivating the protein or polypeptide, and determining if S. pneumoniae is still viable, in vitro or in vivo;

(12) use of an agent capable of antagonizing, inhibiting or otherwise interfering with the function or expression of (I) in the manufacture of a medicament for use in **treatment** or **prophylaxis** of **S. pneumoniae infection**; and

(13) preparation of (I).

ACTIVITY - Antibacterial. Balb/c mice, 6-10 weeks old were immunized with the immunization protein, prepared by emulsifying 2.5 micro g/ micro L protein in a 1:1 ratio with incomplete Freund's

adjuvant on day 0 by Peyer's patches inoculation and boosted by intratracheal administration 14 days later. On day 21, these mice were challenged with live Streptococcus pneumoniae. Blood was collected, the trachea was exposed and the lung were lavaged by insertion and removal of 0.5 mL sterile phosphate buffered saline (PBS). The recovered fluid (BAL) was assessed for bacterial recovery by plating 10 fold serial dilutions onto blood agar for colony forming units (CFU) determination. The lungs were removed following lavage, placed in 2 mL sterile PBS and homogenized. The lung homogenate was assessed by plating 10-fold serial dilutions onto blood agar for CFU determination. Three proteins assessed in immunization and bacterial challenge showed significant degrees of pulmonary clearance from the lungs. These were proteins with molecular masses of 16, 34 and 57 kDa. A fourth protein of significance was the 12-14 kDa protein which is a toxin and potential virulence component of S. pneumoniae.

MECHANISM OF ACTION - Vaccine; gene therapy.

USE - (I), (II), (III), (IV) or (IX) is useful for detection/diagnosis of S. pneumoniae. (I), (II), (III), (IV) or (VII) is useful for vaccinating a subject against S. pneumoniae. The novel polypeptides, its derivatives or homologs and the nucleic acid molecules are useful in **treatment** or **prophylaxis** of **S. pneumoniae infection**. (All claimed).

DESCRIPTION OF DRAWING(S) - The figure shows the flow chart of the protein purification procedure.

Dwg.2/8

L30 ANSWER 3 OF 3 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2000-195301 [17] WPIDS
DOC. NO. NON-CPI: N2000-144461
DOC. NO. CPI: C2000-060591
TITLE: Streptococcal proteins and polynucleotides useful for diagnosis, treatment and prophylaxis of bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): HANNIFFY, S B; **HANSBRO, P M**; LE PAGE, R W F; WELLS, J M
PATENT ASSIGNEE(S): (MICR-N) MICROBIAL TECHNICS LTD
COUNTRY COUNT: 22
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000006738 | A2 | 20000210 | (200017)* | EN | 76 |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: CN JP US | | | | | |
| EP 1144640 | A2 | 20011017 | (200169) | EN | |
| R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE | | | | | |
| CN 1318103 | A | 20011017 | (200213) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000006738 | A2 | WO 1999-GB2452 | 19990727 |
| EP 1144640 | A2 | EP 1999-934990 | 19990727 |
| | | WO 1999-GB2452 | 19990727 |

CN 1318103 A

CN 1999-810978 19990727

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| EP 1144640 | A2 Based on | WO 200006738 |

PRIORITY APPLN. INFO: US 1999-125329P 19990319; GB 1998-16336 19980727

AN 2000-195301 [17] WPIDS

AB WO 200006738 A UPAB: 20000405
NOVELTY - Streptococcus pneumoniae protein or polypeptide (I), its homologs or derivatives, with a fully defined sequence amino acids (given in the specification), is new.

DETAILED DESCRIPTION - (I) has an amino acid sequence selected from 12 sequences given in the specification.

INDEPENDENT CLAIMS are also included for the following:

(1) a protein or polypeptide (II), its homologs or derivatives having a defined amino acid sequence selected from 61 sequences given in the specification;

(2) an antigenic and/or immunogenic fragment of (I), (II) or a protein or polypeptide (III) having a sequence selected from 12 sequences of defined amino acids given in the specification;

(3) a nucleic acid molecule (IV) encoding (I), (II) or (III) having defined DNA sequences given in the specification (or their RNA equivalents, complementary sequences, homologs, derivatives or identical sequences);

(4) an immunogenic and/or antigenic composition (V) comprising (I), (II) or (III) or homologs, derivatives and/or fragments;

(5) a vaccine composition comprising (III);

(6) an antibody (VI) capable of binding to (I), (II), (III) or a homolog, derivative or fragment; and

(7) determining the anti-microbial activity of (I) (II) and (III) by inactivating the protein and determining the viability of S.pneumoniae.

ACTIVITY - Antiinflammatory; antibacterial.

MECHANISM OF ACTION - Vaccine; antagonist.

100 micro g of recombinant pcDNA3.1 (IV) was injected intramuscularly into the tibialis anterior muscle of both legs of mice. A booster dose was given 4 weeks later and control groups received either non-recombinant pcDNA3.1+DNA or no vaccine. After the second immunization, all mice groups were challenged intra-nasally with a lethal doses of Streptococcus pneumoniae serotype 4 (strain NCTC 11886). Mice were monitored for the development of symptoms associated with the onset of S.pneumoniae induced-disease. The groups vaccinated with DNA survived significantly longer than non-vaccinated controls.

USE - (I) or homologs, derivatives and/or fragments are useful as an immunogen or antigen and (V) is useful as a vaccine and also in a diagnostic assay. (I-V) are useful for detection or diagnosis of S. pneumoniae, by contacting a sample to be tested with them. Agents capable of antagonizing, inhibiting or interfering with the function or expression of the protein or polypeptide (II) are useful in medical compositions in the **treatment** or **prophylaxis** of **S.pneumoniae** **infection** (claimed).

Dwg.0/2

Searcher : Shears 308-4994

FILE 'HOME' ENTERED AT 15:15:13 ON 31 JUL 2002

Searcher : Shears 308-4994